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ABSTRACT

The volume presents information on the identification of gifted and talented children, ranging from very broad screening and selection sequences to specific procedures and instruments for locating talent in a variety of areas. Initial sections provide excerpts from Connecticut State Department of Education publications on identification of gifted and talented students and recommendations for gifted and talented programs under Section 10-76 of the general statutes of Connecticut special education legislation. In a third section on guidelines for identification and instrument selection, brief descriptions are provided for measures of general scholastic ability; creative thought processes and creativity potential; conformity, socialization, and maturation; and ideational, figural, expressive, and associative fluency. A fourth section includes descriptions of general systems (such as Project Improve) and instruments for gifted and talent identification. Additional sections address the following: identification of students with extraordinary learning ability; identification of creative thinking abilities; and the identification, talent potential, and a model project for the culturally diverse gifted. (SBH)

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CONN-CEPT V

A CONNECTICUT PRIMER ON PROGRAM DEVELOPMENT FOR THE GIFTED AND TALENTED

SUPPLEMENT ON IDENTIFICATION

(Published originally as Identification of the Gifted and Talented: Report of the Connecticut Task Force on Identification, 1974)

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BUREAU OF PUPIL PERSONNEL AND SPECIAL EDUCATIONAL SERVICES
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FOREWORD

This primer represents the culmination of the efforts of a designated task force of professional personnel to update our 1974 Task Force Report on Identification of the Gifted and Talented.

We are indebted to Alan White and the members of the 1977 task force who updated, compiled and completed this primer to be used by personnel working with the gifted and talented at the local district level. They accomplished this task in a few short months. In addition to doing research and writing articles, the task force attempted to bring together the best information from a wide variety of sources.

We wish to extend our personal thanks to all who have worked on this report in the interest of the gifted and talented in Connecticut.

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INTRODUCTION

Both conceptually and chronologically, one of the foremost concerns in designing programs for the gifted and talented is the identification of the children who will participate in the program. No single identification scheme is without its shortcomings, nor is any one design appropriate for the identification of every type of gift and talent. What is needed is a variety of measures, both objective and subjective, which will support and supplement one another.

Connecticut legislation and administrative guidelines are based on a broadened conception of gifted as -- one which views traditional academic ability as one ability within a wide spectrum of intellectual aptitudes and abilities, including creativity and talent in the graphic and performing arts. The law also encourages educational agencies to identify underachievers and those students who have the potential for high achievement, even though they may not be demonstrating exceptional achievement in their current educational setting. To locate students with these various abilities, it is probably wise to utilize a combination of both standardized instruments and the expert judgment of professionals.

It is the intent of this booklet to present in one convenient volume the most relevant and practical information available on the identification process, ranging from very broad screening and selection sequences to specific procedures and instruments for locating talent in a variety of areas. Along with general recommendations, there will also be found a number of rating scales and checklists that have been used successfully to identify gifted and talented students. Finally, there is a listing of commercially available instruments and a selection of books and articles to guide the interested reader.

It is hoped that the use of this booklet will facilitate efficient and effective identification procedures and remove some of the mystery and misunderstanding surrounding this critically important phase in the development of programs for the gifted and talented.

EXCERPTS FROM CONNECTICUT STATE DEPARTMENT

OF EDUCATION PUBLICATIONS:

IDENTIFICATION OF GIFTED AND TALENTED STUDENTS

CONNECTICUT STATE DEPARTMENT OF EDUCATION
Bureau of Pupil Personnel and Special Educational Services
Hartford, Connecticut

METHODS OF DISCOVERY AND IDENTIFICATION OF THE TOTAL POPULATION OF GIFTED YOUTH AND METHODS OF ASSESSING THE INDIVIDUAL NEEDS OF THESE CHILDREN

The basic problem in special education for the gifted and talented is that of defining the population of children and youth for whom special services, provisions, and programs will be made.

The literature in this area of special education offers a plethora of definitions and characteristics which attempt to describe the qualities of gifted and talented children and youth. Because professional educators have not agreed on a definition of terms, the recent U.S.O.E. Commissioners' Report to the Congress has established a rather open-ended definition for the purposes of Federal education programs. Such definition will serve as a point of reference for our purposes:

> Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities, are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contributions to self and society.

Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:

1. General intellectual ability
2. Specific academic aptitude
3. Creative or productive thinking
4. Leadership ability
5. Visual and performing arts
6. Psychomotor ability
7. Disadvantaged with potential.

It may be assumed that utilization of these criteria for identification of the gifted and talented will encompass a minimum of three to five percent of the school population.

Evidence of gifted and talented abilities may be determined in a multiplicity of ways. These screening and identification procedures should include objective measures and professional evaluation measures which are essential components of such procedures.

Professionally qualified persons include such indivuduals as teachers, school administrators, psychologists, counselors, curriculum specialists, artists,

musicians, and others with special training who are also qualifed to appraise pupil's special competencies.

Generally, evidence of intellectual and creative talent may be determined in many ways including:

.. Consistently very superior scores on a number of appropriate standardized tests.

.. Judgment of teachers, pupil personnel specialists, administrators, and supervisors who are familiar with the demonstrated and/or potential abilities of the individual.

.. Evidence of advanced skills, imaginative insight and intense interest and involvement.

.. Judgments of specialized teachers (i.e., art and music), pupil personnel specialists and experts in the arts who are qualified to evaluate the pupils' demonstrated and/or potential talent.

Can we identify the gifted and talented? The answer to such a question covers several factors: age of identification, screening procedures and test accuracy, the identification of children and youth from different ethnic groups and cultures, underachievers, and tests of creativity. The total problems of screening and identification are complicated by assumptions that talents cannot be found as abundantly in certain groups as among the affluent. These assumptions may be overemployed to produce meager searches and identifications.

Meantime, ample evidence exists that the gifted and talented can be identified in all groups within society. For example, the intensive search for disadvantaged potential and appropriate programs are tasks presently being tackled by such people as Drs. Bruch and Torrance at the University of Georgia, Dr. Renzulli at the University of Connecticut and Dr. Sisk of the University of South Florida.

For those charged with the development of identification procedures for the many target groups among the gifted and talented, it must be remembered that discovery of talent is a continual process that must begin early and continue late in the child's career through the educational system.

All along the continuum provisions should be made to include formal appropriate standardized testing at regular intervals, but more important observation by professional and lay personnel on a regular, orderly and concerted effort to assess and record the childs' manifest achievements or potential achievements in areas not covered by the standard measures.

Professional personnel must learn to feel comfortable with the idea that measurement of student performance does not reside in "objective" paper and pencil tests and that, indeed, the measurement of all human behavior is ultimately rooted in subjective judgment. The most important task is to make these judgments as good and reliable as possible.

William G. Vassar
Consultant for Gifted and Talented

EXCERPTS FROM POLICIES, PROCEDURES AND GUIDELINES FOR GIFTED AND TALENTED PROGRAMS UNDER SECTION 10-76 OF THE GENERAL STATUTES (SPECIAL EDUCATION LEGISLATION)

Prepared by
William G. Vassar
Consultant for Gifted and Talented

I. OVERVIEW

The recommendations on the following pages are concerned with programs for those children who have extraordinary learning ability and/or outstanding talent in the creative arts, and who require qualitatively different instructional programs and services. Secion 10-76 allows reimbursement for such programs when provided as part of the public school program and prior approved by the Secretary of the State Board of Education.

RESPONSIBILITY OF THE PLANNING AND PLACEMENT TEAM

Many pupils can succeed in the regular school program with some adaptions in the curricular design while others require programs or services beyond the level of thos ordinarily provided in the regular school program, but which may be provided through special education as part of the public school program. The determination as to which plan may be effective for these children should be reached by the combined thinking of the special education planning and placement team. In Connecticut the ultimate responsibility for the school placement of any child lies with the superintendent of schools of the school district in which the child attends school. While this responsibility is with the superintendent of schools, his decision should represent the result of inter-professional collaboration on the part of his staff and, if necessary, other consultation of an appropriate nature.

ARTICULATION WITH ADMINISTRATIVE GUIDELINES

These policies and procedures should be used in conjunction with the General Guidelines for Special Education Programs, published by the Connecticut State Department of Education, 1976-77.

II. SUMMARY OF LEGAL PROVISIONS

Seciton 10-76(a-j) of the Connecticut General Statutes makes it permissive for local and regional school districts to provide reimbursable special instructional and ancillary services for pupils with extraordinary learning ability and/or outstanding talent in the creative arts. A local or regional board of education may do this individually or in cooperation with other school districts.

PRIOR APPROVAL PLAN

To be reimbursable, plans for providing such special education must be approved in advance by the State Department of Education. Reimbursement based on an excess-cost concept is explained in Section VII of the 1975-76 General Guidelines for Special Education Programs.

III. DEFINITION OF TERMS

"Extraordinary learning ability" is deemed to be the power to learn possessed by the top five percent of the students in a school district as chosen by the special education planning and placement team on the

basis of 1. performance on relevant standardized measuring instruments or 2. demonstrated or potential academic achievement or intellectual crativity.

"Outstanding talent in the creative arts" is deemed to be that talent possessed by the top five percent of the students in a school district who have been chosen by the special education planning and placement team on the basis of demonstrated or potential achievement in music, the vidual arts or the performing arts.

It should be noted that a local school district could provide for upward to ten percent of its school population, if the broadened concept of giftedness is utilized.

For example, extraordinary learning ability allows for five percent of the population involved (K-4,5,6,7, etc.). However, if the district elects to work with only one segment of the population (i.e., high IQ, high achieving pupils), it is suggested that a single target group such as this be limited to one to three percent. This would allow the district to include other target groups (high creative producers, potential producers, underachievers) to complete the five percent factor.

The five percent factor is not an automatic or magic figure. The school district must assure the Department that these children have been identified through multiple criteria and that the five percent factor is limited to one small legment of giftedness. The same concept is to be applied when utilizing the definitions relative to "outstanding talent in the creative arts."

Screening and identification processes become quite complex when one is developing such criteria in the prior approval process. Each target group of pupils being identified must be processed by multiple criteria which is reasonable and prevents loose or unreasonable criteria from being utilized.

IV. SCREENING AND IDENTIFICATION PROCEDURES

A. Responsibility for Formulating Screening and Identification Process

The responsibility for the screening and identification of eligible children and youth rests with the superintendent of schools or a professional staff member of the school district to whom he may delegate this responsibility. This professional person responsible for the screening and identification process will assume the duties of designing a planning and placement team for the gifted and talented as required by Seciton 10-76.

B. Screening and Identification Criteria

Screening and identification criteria should be based on a study of all available evidence as to the pupil's ability and/or potential by personnel qualified to administer and interpret

1. Appropriate standardized tests;

2. Judge demonstrated ability, potential, intellectual creativity and leadership;

3. Recognize outstanding talent in the creative arts.

C. Approval of Identification Criteria

Section 10-76 of the General Statutes requires that the screening and identification criteria for those who are gifted and talented must be approved by the State Department of Education.

D. Items for Consideration in Screening and Identification Criteria

1. Extraordinary Learning Ability

a. Very superior scores on appropriate standardized tests. Criteria for "very superior" might be the upper two or three percent of an appropriate criterion group or scores which are at least two standard deviations above the local norms. When a school district falls below the national norms; then appropriate measures to measure potential should be applied.

b. Judgments of teachers, pupil personnel specialists, administrators and supervisors who are familiar with the pupil's demonstrated and potential ability.

c. Utilization of a multi-criteria approach is necessary. A number of objective and subjective items should be used to identify any target group. These may include appropriate check lists, rating scales, etc.

d. Intense interest and involvement in a specific intellectual area.

2. Additional items of evidence used in the creative arts category should include:

a. Evidence of advanced skills, imaginative insight, intense interest and involvement;

b. Judgments of outstanding talent based on appraisals of specialized teachers, pupil personnel specialists, experts in the field and/or others who are qualified to evaluate the pupil's demonstrated and potential talent.

The procedures have been designed to avoid arbitrary cut-off points or limitations. The identification process should identify a small percentage of pupils with extraordinary ability and outstanding talent whose needs are such that they cannot be met in the regular school program.

GUIDELINES FOR IDENTIFICATION AND INSTRUMENT SELECTION

by Dr. G. Robert Couillard

IDENTIFICATION OF THE GIFTED AND TALENTED

I. GENERAL GUIDELINES

The identification of the target population to be served by a program for gifted and talented students must be considered central to the successful operation of any such special program. It has all too often been true that we arbitrarily designate a selected group of bright children as gifted or talented on the basis of some ill-defined criteria or even visceral reaction combined with a cursory look at standardized test scores. Such a process is hardly sound and, in any area of special education (including gifted programming), is no longer either defensible or ethical.

Clearly, the model of the program itself must be considered the central pivotal point around which all planning for identification of the student population, implementation of the curriculum, and the process of on-going evaluation of program and progress revolves. We determine the nature of a particular gifted program for any school on the basis of both the needs of the students attending and the resources and personnel available to the school system. Yet, in spite of the central nature of the program model itself, it must be well understood that identification of the target population must precede any elaboration on a particular model. There is a well-travelled story of the town that built the perfect school with the finest teachers and curriculum, only to be sent the wrong students. Such an observation has all too often been based on truth. The school system which defines a program before identifying the needs of the gifted students attending may well doom any perfect model to failure. Indeed, many previous attempts to implement specific programming for gifted students have failed because they had no specific target population, did not folow a careful identification procedure, and often failed to keep the rest of the school community aware of the purposes of such a special program. All these pitfalls must be forseen and avoided if a school is to be successful in providing gifted programming.

Since the identification of the students for a gifted program is, therefore, so central to the initial process of design, it is most important that planners of such programs clearly and carefully indicate the methods for identification as well as the nature of the program to be implemented, and these details must be provided for at the very outset of the development process. The direct question here, then, is exactly how do we adequate and properly identify gifted or talented children?

As stated earlier, most previously employed methods were suspect in their superficiality or their essential lack of provability. Now that special education has become such an essential part of the regular school system's operation, we have to keep clearly in mind that programming for identified gifted children is as much a part of special education as any other type of design to meet the needs of the school's exceptional children. While it is true that gifted and talented programming has long been the stepchild of the process in that is is not a mandated service, nevertheless

more and more school systems are recognizing the real educational need for such programs for children at the top of the achievement spectrum. Furthermore, while programming for the gifted or talented is not mandated, identification of such children is a requirement. This brings us again to the problem of how the school system can devise a workable and defensible plan for identifying gifted or talented students in such a way that they meet students needs within the limitations of reasonable cost.

One of the major reasons why this type of programming has long been relegated to a school system's wishbook for some future implementation or, even worse, tried hastily and with poor planning only to fail abysmally, is that the process of planning and implementation ignored the central question of how the students to be included in the program are to be selected. Without a properly documented and educationally sound process for careful identification of all exceptional children with any type of special need, any program for them is doomed from the beginning. Since we rightfully now spend much time and care on the proper and careful identification of children with learning handicaps, it behooves us all to plan to give this same degree of scrupulous attention to the equally important process of identifying our brightest and most talented youngsters.

II. SPECIFYING THE NATURE OF THE PROGRAM

As we actually begin to devise such an identification process, we must be guided by the same general principles that govern identification of all other exceptional children. Most crucially, such identification must not be based on any single criteron. In addition, this identification must be made by a pupil placement team rather than by any one individual, and the instruments used as part of the identification process must be adequate and certified by their publisher as measures of those specific criteria the school system states that it wishes to identify.

This last point needs more clarification in so far as it relates to the identification of gifted or talented children. Too many planning committees go about devising program and identifying the gifted with the false assumption that giftedness implies some type of ill-defined general excellence in academics. It is further falsely assumed that such giftedness is equally manifest to all teachers and school personnel who deal with any particular child, and that such giftedness will always reveal itself in standarded testing. The most immediate proof of the fallacy of the first of these assumptions is our investigation of ourselves. We are not equally adept at all academic endeavors. Indeed, the very nature of the undergraduate college program assumes that such universality is neither possible nor desirable in that we have all chosen a major field of concentration on the basis of our particular skills and interests. As for the assumption that all teachers equally perceive the giftedness of any one child, there is no school where the perceptions of the English teacher about a child who is only passing, do not entirely differ from the opinions of the math teacher, for whom the same child is the brightest student in the advanced group. Finally, there are many students who simply do not function well on standardized

tests. If such instruments are to be used as one criterion in the identification process (and they should be, since they are so accessible for all students) it must be clearly understood that while standardized testing will usually reveal the presence of most of the students who will eventually be classified as gifted, there may still be a significant group of students with the potential for success in gifted programming who will never be selected for such on the basis of their standardized test scores alone. It is, therefore, critical that the pupil placement team recognize that teacher recommendations are as important a source of identification as are such test instruments.

III. PROGRAM DESIGN

Among the most typical forms of gifted program designs now used in public schools are:

Advanced study in a specific academic area;

Enrichment activities to supplement regular classwork;

Special classes inaddition to regular instruction;

Special classes in place of regular instruction;

College level courses offered in the high school program;

Part-time attendance at outside agencies for the gifted;

Programs for gifted children with special needs;

Programs for the culturally different gifted child;

Programs for the potentially gifted child.

This is hardly an exhaustive list, but it is representative of the kinds of programming which have been successfully tried and are now in operation. It is clear from even such a limited list as this that there are many distinct types of giftedness which can be programmed for, and the school system must determine exactly what needs are present and what they can do to meet those needs as part of the process of determining appropriate selection criteria.

Since determination of the kind(s) of giftedness to be programmed for is central to the selection of a curriculum model, it is crucial that the school system must specify in the initial planning what students they will deal with and how the program will accomplish the predetermined goals. Equally important is the selection of test instruments which will measure those kinds of giftedness for which a program will be provided.

It is neither possible nor advisable to create some general gifted program which will promise to meet all needs of gifted students in one packaged model. By definition, such a program is much too broad in

scope and ambitious in design to focus in any realistic way on advanced or in-depth investigation of any one specialized area by either teacher or students. Clearly then, the selection of the exact program or series of programs that a school system will develop for its students is based on the three basics of faculty ability, student needs, and availability of facilites. Since each school system must determine for itself what faculty talents are on hand or can be acquired for a gifted program, and since facilities are also beyond the province of this report, our discussion will now turn to the specific instruments to help in providing a proper and defensible program of identification of gifted and talented students.

In earlier pages of this section, there was a conscious distinction made between giftedness and talent. The dichotomy is meant to mean that giftedness implies some type of academic superiority and excellence. Talent means outstanding ability in the visual or performing arts specifically. Identification of the talented student by a pupil placement team should include persons capable of judging the quality of student work in performing or visual arts. The best process for such identification is often the student application or teacher referral followed by a formal audition for the committee. The combination of student desire, teacher recommendation, and actual audition or showing of work should be sufficient for the pupil placement teasm to make a decision on a student's particular talent and the need for special programming to meet his/her needs in that area.

IV. IDENTIFICATION PROCEDURES

Identification of the gifted, because it involves academic performance, must be slightly more complex. First of all, the school pupil placement team should receive a ranking of the students on the basis of standardized test results. It is the initial decision of the team to determine which percentage of students will be included for further consideration as the top students. Depending on the size of the school or the size of the proposed program, this figure may range from two percent to twenty-five percent of the total student population for the first look. The second important source of information is teacher referral. Here, the pupil placement team can corroborate the standardized test results by teacher input concerning academic excellence and, most important, can also discover those students who have potential for excellence as observed by a member of the faculty but not immediately apparent from standardized test results. A third source of evidence for the identification process comes from further, special testing of previously selected students to determine the final group to be included in gifted programming. For this purpose, the team may direct that specific testing be done with these few students to determine their potential for success in the program designed for them.

The following listing is a sample of the kinds of tests available together with a brief description of what they measure and where they can be obtained. This information is grouped according to specific abilities or aspects of giftedness that the team may wish to test for.

Measures of General Scholastic Ability

ACADEMIC PROMISE TEST. Grades 6-9, 7 scores: abstract reasoning, numberical, nonverbal total, language usage, verbal, verbal total, total score. The Psychological Corporation, 304 East 45th Street, New York, New York 10017.

ANALYSIS OF LEARNING POTENTIAL. Grades 1-12, 5 subtests for measuring general intelligence or scholastic aptitude.

CALIFORNIA TEST OF MENTAL MATURITY. K-adult, 8 scores: logal reasoning, spatial relationships, numerical reasoning, verbal concepts, memory, language total, nonlanguage total, total score. Approximately 90 minutes, it provides deviation IQ. California Test Bureau, DelMonte Research Park, Monterey, California 93940.

DIFFERENTIAL APTITUDE TESTS. Grades 7-12, 8 scores: verbal reasoning numerical ability, abstract reasoning, space relations, mechanical reasoning, clerical speed and accuracy, language usage, spelling, grammar. The Psychological Corporation, 304 East 45th Street, New York, New York 10017.

GUILFORD-ZIMMERMAN INTEREST INVENTORY (GZII). High school to Adult. An interest inventory based on factor and analytic findings providing ten extremely homogeneous scales which comprehensively cover broad areas of interest: mechanical (manipulative, constructive), natural (outdoor), aesthetic (appreciation), service (social welfare, helping others), clerical (business detail), mercantile (business, merchandising), leadership (administrative, persuasive), literary (verbal), scientific (investigating, experimental), and creative (covering all areas where uniqueness or inventiveness plays a role). Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

IOWA TESTS OF BASIC SKILLS. Grades 9-12, 5 scores: vocabulary, reading comprehension, language skills, work study skills, and arithmetic. Grade norms and percentile norms within grade are provided. 279 minutes in 4 sessions. Houghton Mifflin Company, 110 Tremont Street, Boston, Massachusetts 02107.

KUHLMANN-ANDERSON INTELLIGENCE TESTS. Grades K-12, 3 scores: verbal, quantitative, total. Personnel Press, Inc., Princeton, New Jersey 08540.

LORGE-THORNDIKE INTELLIGENCE TESTS. Grades 3-13, 3 scores: verbal, nonverbal, composite. Easily administered and scored. 90 minutes. Multi-level edition. Houghton Mifflin Company, 110 Tremont Street, Boston, Massachusetts 02107.

METROPILITAN ACHIEVEMENT TESTS. Grades 1-12, 8 scores: word knowledge, reading, spelling, language, languate skills, arithmetic computations and concepts, social studies, and science. Long test, up to 4 hours. Harcourt, Brace Jovanovich, Inc., 757 Third Avenue, New York, New York 10017.

OTIS-LENNON MENTAL ABILITY TEST. Grades K-12. Measure of general ability or scholastic aptitude. Provides IQs percentile ranks and stanines by age and grade. 30-45 minutes. Western Psychological Services, 12035 Wilshire Boulevard, Los Angeles, California 90025.

SLOSSON INTELLIGENCE TEST. Children and adults. A brief (10-20 minutes) individual test of intelligence designed to be used by relatively untrained examiners as well as qualified professionals in working with both children and adults. The SIT is designed to provide screening information and when used for this purpose can be a useful tool in selecting individuals for more comprehensive evaluation of mental ability. Slosson Educational Publications.

SRA ACHIEVEMENT SERIES. Grades 1-9, test for grades 1-2 gives 7 scores, grades 6-9 test gives 11 scores. Science Research Associates, Inc., 259 East Erie Street, Chicago, Illinois 60611.

STANFORD ACHIEVEMENT TEST. Grades K-12, Test batteries at five levels: includes subtests such as language, arithmetic, social studies, reading, spelling. 90 minutes to 5 hours depending on level.

STANFORD-BINET INTELLIGENCE SCALE. Ages 5 and over. An item classification system for use by school psychologists in analyzing and reporting performance in six categories: general comprehension, visual motor ability, arithmetic reasoning, memory and concentration, vocabulary and verbal fluency, judgment and reasoning.

WECHSLER INTELLIGENCE SCALE FOR CHILDREN. Ages 5-12, 13-15 scores: verbal (information, comprehension, arithmetic, similarities, vocabulary, digit span, total), performance (picture completion, picture arrangement, block design, object assembly, mazes, coding, total). The WISC is currently the best available compendium of individually administered subject comparison techniques purporting to measure intelligence.

CALIFORNIA ACHIEVEMENT TESTS. Grades 1-12, 11 or 12 scores: reading (vocabulary, comprehension, total), mathematics (computation, concepts, problems, total), language (mechanics, usage, structure, total, spelling), total score. McGraw-Hill Publishers, 1221 Avenue of the Americas, New York, New York 10017.

Test Measures of Creative Thought Processes and Creativity Potential

ALPHA BIOGRAPHICAL INVENTORY. Grades 9-12. Three hundred multiple-choice items to asses wthe potential for scientific creativity. Institute for Behavioral Research in Creativity, Prediction Press, Greensboro, North Carolina.

CREATIVE PROBLEM SOLVING IN ARCHITECTURE TEST BATTERY. Assessess level of creative problem solving in architecture and related disciplines.

Architectural Experimental Laboratory, University of California, Berkeley, California 95401.

CREATIVITY TEST (Forms A & H). Short twenty-item tests to assess fluency, flexibility, originality. Purdue University, Purdue, Indiana.

DECORATIONS (DEC). Grades 9-Adult. A measure of the ability for divergent production of figural implications, an ability parallel to "elaboration," which is the ability to add meaningful details to what is given. Given outlines of well-known articles or furnishings, the examinee is to add decorative lines. Artistic quality is not important, figural ideas are. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

FLANAGAN APTITUDE CLASSIFICATION TEST NO. 18 - INGENUITY. Grades 9-12. Measures creativity or inventiveness. Each test item contains a description of a problem situation similar to one that might be encountered in life. Aspects of the solution are given, but the key word or words which include the crucial ideas are left blank, requiring the individual to think of an ingenious solution. The five choices are given in terms of the first and last letters of the possible right answer, so the individual really developes the solution. Science Research Associates, Inc., 259 Erie Street, Chicago, Illinois 60611.

HENMON-NELSON TESTS OF MENTAL ABILITY. If a single predictor of school success is needed which can be given in less than one class period and scored with a minimum of time and effort, this may be the test to use. Includes 90 items with heavy emphasis on verbal content. Items are arranged in omnibus cycle form - different types recur regularly, and in each new cycle with increasing difficulty. Houghton Mifflin Company, 110 Tremont Street, Boston, Massachusetts 02107.

OMNIBUS PERSONALITY INVENTORY (FORM F). Requires response to three hundred and eighty-five true/false items. Provides scores on fourteen scales, of which the most useful in studying the creative person are: thinking introversion, theoretical orientation, estheticism, complexity, and autonomy. The Psychological Corporation, 304 East 45th Street, New York, New York 10017.

OPINION, ATTITUDE, AND INTEREST SURVEY (OAIS). Questionnaire keyed for several traits, including creative ability and potential (Creative Personality - CP Scale). OAIS Testing Program.

PROJECT TALENT CREATIVITY TEST. Grades 9-12. Measures creativity or inventiveness. Each test item contains a description of a problem situation similar to one that might be encountered in life. Aspects

of the solution are given, but the key word(s) which include the crucial ideas are left blank requiring the individual to think of an ingenious solution. The five choices are given in terms of the first and last letter of the possible right answer, so the individual really develops the solution. Science Research Associates, Inc., 259 East Erie Street, Chicago, Illinois 60611.

RUNNER STUDIES OF ATTITUDE PATTERNS (INTERVIEW FORM III). Frequently and consistently, the Greedom Orientation Scales have correlated positively and the Control Orientation Scales have correlated negatively with measures of creative ability. Runner Associates.

SEQUENTIAL TESTS OF EDUCATIONAL PROGRESS (STEP). Ages 4-adult. Measure the outcomes of educational experiences, both formal and informal, from elementary school to college. Tests for communication (separate subtests for reading, writing, essay writing, and listening), science, math, and social studies. Emphasis on utilization of learned skills in solving new problems. Cooperative Test Division, Educational Testing Service, Princeton, New Jersey 08540.

SIXTEEN PERSONALITY FACTORS TEST. High score shows the type of personality which is creative and inventive in any area in which he/she possesses the ability and training, that is, the general tendency to work creatively in science, literature, art, or other job, regardless of the field. The Institute for Personality and Ability Testing, 1602 Coronado Drive, Champaign, Illinois 61822.

TESTS OF CONCEPT UTILIZATION. Grades 1-12. Assesses 5 areas of conceptual thinking: color, shape, relational function, homogeneous functions, abstract function. Administered in 10 minutes. Correlations are provided between various conceptual abilities and grade point averages.

TORRANCE TESTS OF CREATIVE THINKING. Ages K-adult. Assesses 4 mental characteristics important to creative thinking ability: fluency, flexibility, originality, elaboration. Presented in 2 test booklets: figural, which requires drawing responses, group test (k-adult) 45 minutes; verbal, requiring written responses, 60 minutes. Personnel Press, Inc., Princeton, New Jersey 08540.

TORRANCE TESTS OF THINKING CREATIVELY WITH PICTURES. Contain three subtests which require individual to draw pictures which elaborate on a single brightly colored form, ten incomplete line drawings, and thirty-six indentical circles or pairs of parallel lines. Personnel Press, Inc., Princeton, New Jersey 08540.

TORRANCE TESTS OF THINKING CREATIVELY WITH WORDS. Contain five subtests which require individual to 1. ask questions about an unusual picture, 2. guess causes of the action in the picture, 3. think of ideas for improving a stuffed toy monkey or elephant, 4. list

usual uses for cardboard boxes or tin cans, and 5. predict consequences of an improbable event. Personnel Press, Inc., Princeton, New Jersey 08540.

Measure of Conformity, Socialization and Maturation

BIOGRAPHICAL INVENTORY. The 125 multiple choice items assess biographical information and crativity-related activities in areas of family history, avocational activities, and miscellaneous. Educational and Industrial Testing Service, P. O. Box 7234, San Diego, California 92107.

CALIFORNIA PSYCHOLOGICAL INVENTORY (CPI). Measures folk-concepts of interpersonal behavior that are relative to social interaction, stressing the healty rather than the pathological aspects of behavior and personality. Provides measures of 1. poise, ascendency, and self-assurance, 2. socialization, maturity, and responsibility, 3. achievement, potential, and intellectual efforts, and 4. intellectual and interest modes. Consulting Psychologists Press, Inc., 577 College Avenue, Palto Alto, California 94306.

MYERS BRIGGS TYPE INDICATOR (MBTI). A test of cognitive styles and personalities. Types based largely on Jung's theory of psychological attitudes, functions, and types. Provides a measure of two basic attitudes - introversion and extroversion, with a preference for perceiving and judging; of the relative strength of two opposed perceiving functions - sensation and intuition, and of two opposing judging functions - thinking and feeling. Also identified as a subject's personality type in the Jung frame of reference. Educational Testing Service, Princeton, New Jersey 08540.

STARKWEATHER FORM BOARDS TEST. Pre-school. Consists of four form boards picturing familiar scenes. The scoring of the test indicates the relationship between the child's conforming and non-conforming responses. Requires special apparatus. Elizabeth Starkweather, Associate Professor, Department of Family Relations and Child Development, Oklahoma State University, Stillwater, Oklahoma 74074.

STARKWEATHER ORIGINALITY TEST. Predicts originality independently of verbal ability. Requires special apparatus. Elizabeth Starkweather, Associate Professor, Department of Family Relations and Child Development, Stillwater, Oklahoma 74074.

STARKWEATHER SOCIAL CONFORMITY TEST. Measures child's tendency to conform or not as influenced by the child's actual color preferences. Requires special apparatus. Elizabeth Starkweather, Associate Professor, Department of Family Relations and Child Development, Oklahoma State University, Stillwater, Oklahoma 74074.

STARKWEATHER TARGET GAME. Measures the young child's willingness to try different tasks. Special apparatus required. Elizabeth Starkweather, Associate Professor, Department of Family Relations and Child Development, Oklahoma State University, Stillwater, Oklahoma 74074.

WELSH FIGURE PREFERENCE TEST. Includes the Barron-Welsh Art Scale. Requires reaction to four hundred figures varying on several dimensions. In addition to the original scales, factor analytic studies may increase the usefulness of this instrument. Consulting Psychologists Press, Inc., 577 College Avenue, Palo Alto, California 94306.

Tests of Ideational, Figural, Expressive and Associative Fluency

EXPRESSIONAL FLUENCY (EF). Junior high, college and adult levels. A measure of the factor of divergent production of semantic systems defined as the ability to produce efficiently appropriate verbal expressions of organized thought. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

IDEATIONAL FLUENCY (IF). Junior high, college and adult levels. A measure of the factor of divergent production of semantic units requiring the examinee to produce efficiently many ideas fulfilling meaningful specifications. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

MAKING OBJECTS (MO). Junior high, college and adult levels. A measure of the factor of divergent production of figural systems, this test is parallel to those measuring expressional fluency in the verbal or semantic category. The factor might be called "figural expressional fluency." Given a collection of very simple figural elements, the examinee is told to construct specified objects by combining those elements. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

MILLER ANALOGIES TEST. Graduate school level. A single-score test of high difficulty level, originally designed to measure scholastic aptitudes at the graduate school level. Also useful in selecting individuals for high positions in business. The Psychological Corporation, 304 East 45th Street, New York, New York 10017.

NEW USES (NU). High school - adult levels. A measure of convergent production of semantic transformations, a redefinition ability. A low score on this test probably indicates functional fixedness, which serves as an inhibitor in problem-solving, preventing insights. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

PERTINENT QUESTIONS (PQ). High school - adult levels. A measure of the factor of conceptual foresight, or cognition of semantic implications. The ability to see implications of a meaningful kind, as in having anticipations, in being aware of consequences and in making predictions. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

PLOT TITLES (PT). High school - adult levels. A measure of two factors: ideational fluency (divergent production of semantic units) and originality (divergent production of semantic transformations). The former was defined under Ideational Fluency. The latter is seen in the efficient production of ideas of high quality with respect to the criterion of cleverness. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

POSSIBLE JOBS (PJ). Junior high school - adult levels. A measure of the factor of divergent production of semantic implications, the ability to elaborate on given information or to suggest alternative deductions or extensions. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

REMOTE ASSOCIATES TEST. Measures the ability to think creatively based on associative interpretation of the creative thinking process - an interpretation which envisions the process as one of seeing relationships between seemingly mutually remote ideas and approach to various problems and allows demonstration of creative problem solutions. Highton Mifflin Company, 110 Tremont Street, Boston, Massachusetts 02107.

SEEING PROBLEMS (SP). Junior high school - adult levels. A measure of the factor of congnition of semantic implications. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

SIMILE INTERPRETATIONS (SIM). High school - adult levels. A measure of the factor of divergent production of semantic systems which was defined under Expressional Fluency. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

SKETCHES (SKET). Junior high - adult levels. A measure of figural fluency, or divergent production of figural units: the ability to produce efficiently a variety of units of visual figural information in response to specifications. Four basic and simple figures are given, each repeated twelve times. The examinee is asked to make each one into a recognizable object. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

SOUNDS AND IMAGES. Familiar and obscure sounds on a record elicit associates which may be scored for originality. Personnel Press, Inc., Princeton, New Jersey 08540.

UTILITY TEST (UT). High school - adult level. A measure of both ideational fluency (divergent production of semantic units) and

spontaneous flexibility (divergent production of semantic classes), which requires the examinee to conceive of new and unusual uses for familiar objects based on a wide variety of attributes of the objects as possible. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

WORD FLUENCY (WF). Junior high school - adult levels. A measure of divergent production of symbolic units requiring the examinee to produce rapidly words fulfilling specified symbolic (letter) properties. Sheridan Psychological Services, Inc., P. O. Box 837, Beverly Hills, California 90213.

GENERAL SYSTEMS AND INSTRUMENTS:

SCREENING AND SELECTION SEQUENCES

PROJECT IMPROVE

System for Identifying Gifted and Talented Students
Joseph S. Renzulli, 1971

The purpose of this system is to provide persons who are involved in the identification of gifted students with a comprehensive plan that will assist them in both the screening and the selection process. The system is designed 1. to take account of a variety of identification criteria, 2. to minimize the amount of individual testing required, and 3. to show a relationship between the objectives of the program and the criteria upon which selection is based. The steps involved in identification should take place in the Spring of the year before students are placed in the program. For students who are continuing in the program, the same procedure should be followed; however, test data should be updated and information should be obtained from special program teachers who have worked with the students during the preceding year. Screening and selection should be carried out by a committee consisting of teachers, administrators, and pupil personnel specialists.

Before the screening and selection system can be implemented, the following three decisions should be made:

1. How many students will be involved in the program?

2. What area or areas will the program focus upon? (Language arts, Science, etc.)

3. From what grade levels will the students be selected?

Once these basic program decisions have been made, the following steps should be followed:

PART I: SCREENING

Step A: Intelligence Test Information

Section A of the Screening and Selection Form should be completed for all students who are in the grade(s) below the grade(s) from which students will be selected for the program. In the very early stage of the screening process, all youngsters in these grades should be considered eligible for the program. This approach will minimize the chances of overlooking youngsters who do not earn a high evaluation on any one criterion, but who may be good candidates for the program when several criteria are looked at collectively. Each step in this identification system will be directed toward reducing the number of students who are eligible for the program.

If the program deals mainly with one or more of the traditional academic areas, a minimum group intelligence test score should be established. Any student who has scored at or above this cut-off point on any of his group intelligence tests should be continued in the screening process. A rationale for establishing this cut-off point might be as follows:

1. Decide how many students the program can accommodate and determine what proportion of the eligible students this figure represents.

   Example: $\frac{\text{Program can accommodate} = 300}{\text{No. of Students Eligible} = 3000} = 10\%$

2. Determine the observed means and standard deviations for intelligence scores for each grade level.

   Example: 4th grade mean for 1000 students = 105, S. D. = 12

   5th grade mean for 1000 students = 100, S. D. = 15

   6th Grade mean for 1000 students = 95, S. D. = 18

3. Refer to a table of proportions under the normal distribution curve and determine the Z-value that marks off the top 10 percent of a normal population.

   Example: 10% of a normal population falls above a Z-value of 1.28.

4. Determine the cut-off scores by a. multiplying the Z-value by the observed standard deviations, and b. adding these figures to the observed means.

   Example: The top 10% in 4th grade will earn a score of

   120.36 or better
   1.28 x 12 = 15.36
   15.36 + 105 = 120.36

   5th grade = 119.26
   6th grade = 118.04.

Because of errors in measurements that are inherent in group measures, and because some youngsters simply do not demonstrate their best performance in group testing situations, an individual intelligence test should be administered to all students who score five or less points below the group test cut-off score. Because of the cultural inequalities in intelligence tests, minority group students and students coming from low socioeconomic backgrounds who score fifteen or less points below the cut-off score also should be given an individual test. Since individual intelligence tests are also culture bound, the subjective judgment of the psychologist should be used in interpreting test performance for minority group and low socioeconomic youngsters.

Scores from intelligence tests should rarely, if ever, be used as the only criteria for admission to a program for the gifted. This is especially true if the program focuses upon the development of non-academic talents such as art, music, leadership, drama, and creativity. If the program does focus on one or more of the traditional academic areas, students with

unusually high scores can usually be recommended for the program without further consideration of additional information. With the exception of students who are unusually low in intelligence, a good rule to follow is that NO CHILD SHOULD BE EXCLUDED FROM THE PROGRAM SOLELY ON THE BASIS OF INTELLIGENCE TEST RESULTS.

If the program deals with developing the creative potential which is present in all youngsters, or with special aptitudes and talents such as music, mechanics, drama, etc., Steps A and B should be skipped and screening and selection should focus on Steps C, D, and E.

Action Based on Step A

After all intelligence information has been gathered for students who are eligible for a program that deals with one or more of the traditional academic areas and cut-off points have been established, the following decisions can be made:

1. Students who score ten or more points above the cut-off score should be recommended for placement in the program.

2. Students who score ten or more points below the cut-off score should not be recommended for placement in the program.

3. All other students should be continued in the screening process.

Step B: Achievement Information

If the program deals with one or more of the traditional academic areas, Section B of the Screening and Selection Form should be completed for all eligible students who have been continued in the identification process. Section B points out each student's best area(s) of performance, and this information should be carefully considered when the program focuses on a particular academic area. For example, if the program is designed to develop advanced levels of proficiency in science, then special consideration should be given to students who have demonstrated high performance in this area. If a variety of special program offerings are available, but space or scheduling problems prohibit enrollment in more than one area, student interest should be respected, and, if necessary, interviews with a guidance counselor should be arranged to help students clarify their interests.

At this point, the screening and selection committee should have a fairly good idea about which students are the best achievers, but whenever there is some doubt about a student's past performance, the information required in Step C should be gathered.

Special consideration should be given to students who score unusually high on intelligence tests, but who display poor performance on achievement tests and/or course grades. These youngsters may be bored by a curriculum which has failed to challenge their superior abilities, and this lack of challenge sometimes causes them to have discipline problems in the regular classroom. A special program may be the best way to renew these students' interest in learning.

Action Based on Step B

Because of variations in student motivation, different standards in grading practices, and the frequent lack of relationship between course content and standardized achievement tests, decisions based on Step 2 should be approached with great caution. Whenever there is any doubt about a student's motivation and ability to accomplish work in the special program the additional information suggested in Step C should be gathered. With these cautions in mind, the following action might be based on Step B:

1. Students who have unusually high achievement in the area(s) with which the special program will deal should be recommended for placement.

2. Students with unusually low achievement should not be recommended for placement. (Note above caution about students who have high intelligence scores but low achievement test scores and course grades.) Students who are eliminated at this step may be nominated later as a special recommendation.

3. All other students should be continued in the screening process.

Step C: Teacher Judgment

A Scale for Rating the Behavioral Characteristics of Superior Student (SRBCSS) should be completed for all students who have not yet been selected for the program. This scale was designed to serve as a guide for teacher judgment in the areas of learning, motivation, creativity, and leadership. The score from this scale should be recorded in Section C of the Screening and Selection Form. The mean scores of the four separate scales of the SRBCSS should be computed and the comments of teachers should be carefully considered.

Action Based on Step C

1. Students with the highest scores on the SRBCSS or other rating scales should be considered for placement in the special program.

2. Remaining students should not be recommended for placement unless they are nominated in Section D.

Step D: Special Nominations

After a final list has been compiled, the list should be circulated to teachers from the sending classes and they should be allowed to make special nominations for any students who are not on the list but who they feel should be given further consideration. Teachers should meet with the screening and placement committee and be given an opportunity to make a case for their special nominations. Whenever a child is not placed in the special program, a brief statement which summarizes the reasons for not being placed should be sent to the teacher who nominated the child.

Step E: Special Aptitudes and Talents

Whenever a program deals with the development of special aptitudes and talents, the screening and selection process should show a close relationship between the ability being developed and the criteria which are used for identification. In other words, if the program is mainly directed toward the development of general creativity, then tests of this aptitude should be given primary consideration in the identification process. If the program deals with the development of talents such as art, drama, or music, then persons who are qualified to make judgments in these areas should conduct auditions and/or review samples of students' work. Because of the limited number of objective instruments for measuring various kinds of talents in the fine arts, a good deal of the criteria for selection in these areas will have to depend on the subjective judgment of experts. Some instruments are available for measuring specific abilities such as mechanical aptitude, judgment for design, physical dexterity, etc., and current listings of instruments in these areas should be reviewed as a possible source of identification criteria.

PART II: SELECTION

At the conclusion of Step D (or Step E if the progress deals with special aptitudes or talents), the Summary box on the first page of the Screening and Selection Form should be completed and all students who have been recommended in one of the screening steps should be reviewed by the screening and selection committee. In most cases, the list of students recommended for the program will exceed the number of students that the program can accommodate, and the major task in selection will be to trim the list down to the desired number. In addition to certain practical considerations such as balance between boys and girls, geographic locations of students, scheduling, etc., some general guidelines can be used to assist in making the final decision.

The most important consideration is to achieve a balance among the various types of students who have been recommended. A good idea is to arrange the groups in such a way that they contain some high IQ students, some high achievers, and some students who have received high ratings in motivation, creativity, and leadership. This approach may cause the committee to eliminate some high IQ or high achievement students in favor of students who are lower in these abilities but high in characteristics that will be important to the overall functioning of the group. The result will be a more heterogeneous group that can profit from each other and that can engage in activities that require a cooperative blend of various abilities.

A second guideline in making the final selection is to consider which students might suffer adverse effects from participating in a program that requires high performance. Some students do not adjust well to the heightened competition that is almost always present in programs that bring together highly able youngsters, and for this reason, it may be wise to eliminate students whose participation in the program will place them under undue pressure.

SUMMARY

___Placement Recommended in Section_____

___Placement not Recommended in Section_____

PROJECT IMPROVE

Screening and Selection Form
for Identifying Gifted Students

Joseph S. Renzulli, 1971

Name_____ Date of Birth_____
Year Month Day

School_____ Grade_____

Teacher_____ Sex_____

Section A: Intelligence Test Information

1. Group Intelligence Tests

Date	Grade	Name of Test	Verbal Score	Non-Verbal Score	Total Score

Based on the above information and the established cut-off score of _____, the following action is recommended:

_____Placement in the program is recommended.

_____An individual intelligence test should be administered.

_____Additional information is needed (proceed to Section B).

_____Placement is not recommended at this time.

2. Individual Intelligence Tests

Date	Grade	Name of Test	Verbal Score	Non-Verbal Score	Total Score

Attach report of examiner.

Based on the above information, the following actions is recommended:

_____Placement in the program is recommended.

_____Additional information is needed (proceed to Section B).

_____Placement is not recommended at this time.

Comments:

Section B: Achievement Information

1. Achievement Tests

Date	Grade	Name of Test	Reading G.E.	Reading %ile	Lang. G.E.	Total %ile	Arith. G.E.	Total %ile	Soc. Stud. G.E.	Soc. Stud. %ile	Committee G.E.	Committee %ile

G.E. = Grade Equivalent

Circle all scores that are two or more years above grade level and/or above the 90th percentile.

Student's best area(s) of achievement_____

Student's poorest area(s) of achievement_____

2. End-of-Year Grades

Date	Grade	Teacher	Reading	Arith.	Lang. Arts	Social Studies	Science

Attach relevant comments regarding achievement from permanent record.

Student's best area(s) of performance_____

Student's poorest area(s) of performance_____

Based on the information from Sections A and B, the following action is recommended:

_____Placement in program in the area(s) of_____ is recommended.

_____Additional information is needed (proceed to Section C).

_____Placement is not recommended at this time.

Section C: Guided Teacher Judgment

1. Scale for Rating the Behavioral Characteristics of Superior Student (see Exceptional Children, Vol. 38, November, 1971)

Date	Grade	Teacher	Learning	Motivation	Creativity	Leadership

Mean Score for Group:_____

2. Other Relating Scale Information (Specify)

Based on the information from Section A, B, and C, the following action is recommended:

_____Placement in the program is recommended.

_____Additional information is needed in the form of:

_____

_____Placement is not recommended at this time.

Section D: Special Nominations

In the space below, summarize the comments of teachers if this child is a special nomination:

Based on the above comments, and in view of the information provided in Section A, B, and C, the following action is recommended:

_____Placement in the program is recommended.

_____Additional information is needed in the form of:

_____

_____Placement is not recommended at this time.

Section E: Special Aptitudes and Talents

1. Tests and Rating Scales of Special Aptitudes and Talents

Date	Name of Test	Results

2. Summary of Results from Auditions or Evaluations or Products or Performance. Person making evaluation_____

Based on the above information, the following action is recommended:

___Placement in the program is recommended.

___Additional information is needed in the form of:

_____

___Placement is not recommended at this time.

The Commonwealth of Massachusetts
Department of Education
Division of Elementary & Secondary Education

IDENTIFICATION

The following process is shown only as one approach to identification of academically talented pupils. This is a two step procedure for placement of a pupil into a program for academically talented pupils.

I. Screening Procedure

A. Pupils who meet one or more of the following criteria are nominated for possible placement in academically talented programs:

1. Group I.Q. - 120 or higher
2. Marks - A and B
3. Emotionally adjusted
4. Upper 10% of local achievement norms or achievements at least two years above grade level
5. Recommended.

II. Final Selection

A. Each candicate may be placed in a program if a pupil meets criteria 1 and 4 of the above.

B. Further evaluation is necessary if each student meets criteria 1 and 4 but does not meet criteria 2, 3, and 5. Further evaluation is needed if a student meets criteria 1 but not 4 or 4 but not 1.

The purpose of good procedures for identifying and selecting academically talented pupils is two-fold: 1. to include the pupils who should be placed in an academically talented class on the basis of predetermined criteria; and 2. to exclude pupils who should not be placed in an academically talented class on the basis of the same predetermined criteria.

The intitial screening process is utilized to select a group of candidates for the academically talented program. This initial process should be followed by more specific evaluative procedures of candidates in order that the final selection can be made with a greater degree of confidence and accuracy, i.e., include pupils who meet the criteria and exclude those who do not.

The results of intellegence tests administered in a group situation are less dependable for the primary pupil than for other age groups. In order to overcome this difficulty and to be able to make selections with a rather high degree of confidence, one or more of the following alternative procedures can be utilized:

1. Individual intelligence tests; if possible, have an individual intelligence test administered to each prospective pupil, or

2. Group intelligence tests:

   a. Administer a group I.Q. test individually to a prospective pupil, and

   b. After a reasonable length of time, readminister other forms of I.Q. tests previously given or administer another group intelligence test.

The utilization of the two-step procedure for the identification and selection of academically talented pupils affords the opportun.ty for a more concise job of identification.

During the initial screening process, a relatively large number of pupils will be included in the initial group. On the other hand, if pupils are screened initially on the basis of all criteria, then some who would be found on further evaluation to qualify would be eliminated. For example a pupil who meets only four out of the five criteria would not receive further consideration.

A procedure for the final selection of pupils is essential in order to insure a high degree of confidence that the type of pupil desired for the program is being selected. Perhaps the most efficient method is the combination of standardized group intelligence and achievement test scores. From the intelligence tests results, conferences can be made about the intellectual potential of students in the areas of cognitive memory and evaluation, as well as predicting academic performance. The achievement test often is a means of discovering pupils whose abilities have not been shown in group intelligence tests. On the other hand, pupils who do not meet intelligence and achievement test criteria should 1. be further evaluated as a furtner check on the adequacy of previous scores, and/or 2. be excluded from placement in a program.

OUTLINE FOR THE IDENTIFICATION PROCESS

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Ideally, the identification process should begin in kindergarten and continue the entire school career. A breaking point in this process occurs at the time of certification. Prior to certification, the identification process tends to be historical. Data are collected concerning the individual's development and a thorough assessment is made of his various potentialities with particular focus upon his mental abilities. Subsequent to certification, the identification process becomes more or less synonymous with the accumulation and use of a case study. The main categories within the case study have, of course, already been described by the kinds of case history and psychometric variables collected.

The first time a pupil is considered for possible certification and program placement, the following steps might be followed:

1. SCREENING - A battery of group devices might be used to determine whether or not a given group of individuals scored in a significantly deviant fashion. Candidates who do not so score can be easily eliminated from further consideration on an efficient and logical basis. The test battery might include a short-form test of mental maturity, a language skills test, and an arithmetic skills test.

2. NOMINATION - Subsequent to the screening procedure, a list of possible nominees becomes available. From this list of potential nominees, principals, teachers, and others may attempt to match candidates with appropriate selection criteria provided by their school district and based upon the education philosophy of the district. Nomination forms can be designed to include definitions and criteria for selection. In a sense, nomination forms become identification instruments of sorts because they call upon persons who nominate to supply valid criteria to justify their nominations.

3. EXAMINATION AND CASE HISTORY - A qualified person such as a school psychologist should assess the intellectual abilities, personality functioning, past achievement, social and emotional adjustment patterns, developmental history, and specimens of productivity of the nominee. A case study form can be designed for this purpose and include questions pertaining to the pupil's attitudes, motivation, special skills, talents, interests, future plans, social maturity, educational background, health and development, home and family relationships, and other significant data. Such a case study can be designed in terms of the kinds of questions we will want to answer about this student's potentiality for inclusion in various program patterns. For example, certain of the areas mentioned, such as attitudes, motivation, and social maturity, may be more significant when advanced placement is considered as a program possibility.

4. CERTIFICATION AND PLACEMENT - A committee of professional educators, including teachers, trained psychologists, and administrators, should study all of the data collected with a view toward placing pupils in appropriate program patterns. Case conferences with the parents should acquaint them with the data collected and garner their viewpoints as important factors in placement. Placement decisions must be subjected to constant revision in light of new data. Pupils themselves should play a key role in the placement procedure. If for any reason a pupil does not wish to participate in a given program, his wishes should be respected.

5. PERIODIC FOLLOW-UP - Periodically the entire case study record should be reassessed in light of new evidence. Mental ability and achievement test results, general aptitude results, indications of vocational interests, academic records of performance, anecdotal notes by teachers, discipline record, opinions and attitude changes of parents, and periodic self-evaluation and appraisal by the student himself are all factors which are considered in the reassessment of a pupil's suitability for certain programs or his need for certain counseling or instructional experiences.

6. EVALUATION - Evaluation of two sorts needs to occur for ultimate program success. In the first place, each pupil needs to be evaluated on a yearly basis with reference to his increment of academic growth, interest in the special program, and general development in areas other than achievement. A second type of evaluation would ascertain general increments of academic growth. These need to be measured and, preferably, compared with those gains recorded for similar or matched groups. Also, the instruction needs to weigh such intangible factors as general faculty morale, public acceptance of the program, general cultural contribution of the program and usefulness and adaptability of techniques and materials for general curriculum development.

THE STRUCTURE OF THE CASE STUDY

California Project Talent has intended this case study to be intensive as well as extensive in terms of the data collected. Survey instruments were developed to "appraise the total child from multiple perspectives in a variety of situations." The case study is designed to collect the following kinds of information:

1. BACKGROUND INFORMATION - This information would include historical and developmental data.

2. HEALTH AND MEDICAL RECORD - This would include typical health data including measurements and indications of serious problems, illnesses, or the like.

3. SCREENING AND NOMINATION FORM - This form is intended to collect from the classroom teacher working in cooperation with the school psychologist the bulk of the background information necessary to make decisions concerning certification and placement of the pupil. The usual test data, cumulative record data, and anecdotal notes

from teachers are collected. In addition, a series of specially designed items which lend themselves to multiple choice decisions have been developed to appraise the pupil's intellectual functioning, his interest areas, his performance in terms of actual classroom output, his physical development, his social development, his emotional development, and other potential problem areas.

4. PARENT INVENTORY - The parent supplies the school with a description of such factors as occupational background, description of the family unit, indications of superior performance in the home, family activities, vocational and other expectancies on the part of parents for their child, the child's typical extracurricular activities, and suggestions for meeting the child's special needs. An inventory similar to that checked by the reacher is administered to the parent. Interesting comparisons of the way in which parents and teachers view the same child can be made. Contradictions would need to be reconciled, of course.

5. PSYCHOLOGIST'S SUMMARY AND EVALUATION - The professional worker organizing the study of the child needs to develop an effective summary and recommendations. He would interpret the data, including a self-appraisal by the pupil.

CONFIDENTIALITY AND ETHICS

Concerning identification, the Gifted Child Committee of the California Association of School Psychologists and Psychometrists has stated:

> "The psychologist has a responsibility to guard against repeated application of group tests directed toward the qualification of as many children as possible. A line must be drawn between legitimate evaluation and re-evaluation on the one hand, and exploitation on the other. Planning for a gifted child must be based upon accurate information regarding exceptional educational needs insofar as possible. In some instances, the psychologist should discourage as well as encourage placement of mentally gifted minors in specific programs.
>
> Administration of the entire individual test should be the rule in identification, whenever individual tests are used. The complete test protocol should be available for future consideration and evaluation." (The School Psychologist and the Education of Gifted Children. Gifted Child Committee of the California Association of School Psychologists and Psychometrics, California State Department of Education, Division of Instruction, September, 1962.)

Professional workers should restrict their contributions of data to the limitations of their background and comptencies. In general, school psychologists or other qualified pupil personnel workers should collect, synthesize, and alalyze case study data. While teachers contribute information and utilize recommendations, they must be cautious when probing into areas such as personality assessment.

IDENTIFYING STUDENTS WITH EXTRAORDINARY LEARNING ABILITY

(ACADEMICALLY GIFTED OR "TERMAN TYPES")

DEFINITIONS AND CHARACTERISTICS

Traditionally, the term "gifted child" has been applied to students with exceptionally high intellectual ability or achievement. As exemplified by the studies of Terman and Oden (1974), the traditional definition has referred to superior abstract verbal ability or academic aptitude as evidenced by high scores on intelligence tests (usually above 130 or 140 on individual tests). It is this bright, verbal, motivated, high-achieving child who is typically identified as gifted by professional educators and laymen alike.

In recent years, however, numerous researchers have asserted that the IQ, as an operational definition of intelligence, represents a somewhat limited sampling of the total spectrum of intellectual abilities. The conception of "giftedness" has accordingly been revised to include a broader range of talents and abilities. This broadened conception, inspired to a large degree by Guilford's Structure-of-Intellect model, includes such multi-dimensional talents as social leadership, creative or divergent production, and exceptional ability in such areas as communication, planning, decision-making, and the creative and performing arts.

The terms "intellectually gifted" or "academically talented" are now usually reserved for the narrower, traditional band of cognitive abilities which represent just one - albeit important - type of "gift". Since the classic early studies of gifted children were conducted by Louis Terman, it is not uncommon for children with high IQ's to be referred to as "Terman-type" students. These intellectually gifted students differ significantly from the general school population. They function at levels in advance of their peers and pose challenging educational problems because of their deviation from the norm. They are superior in abstract thinking and verbal reasoning, and they achieve well academically.

Terman observed several characteristics of intellectual giftedness in his studies. These students:

1. Possess alertness beyond their years,
2. Have keen powers of observation,
3. Show a passionate desire to learn,
4. Ask endless questions,
5. Are interested in everything,
6. Are ambitious to excel,
7. Get the highest school marks,
8. Write excellent exam papers,
9. Have a fine command of language,

10. Have fine reading powers,

11. Show independence of judgment,

12. Are original thinkers,

13. Answer always to the point,

14. Have a keen sense of humor,

15. Have unusual powers of concentration,

16. Are more dependable than other children their age, and

17. Are conscientious.

Of course, giftedness is complex; each individual will possess unique combinations of abilities. Essentially, the intellectually gifted child is one who consistently demonstrates superior mental abilities and characteristics for his/her age. Identifying students with this narrow range of giftedness is facilitated because they are motivated to achieve at levels more consistent with their intellectual ability.

IDENTIFICATION PROCEDURES

Procedures for identifying intellectually gifted children are generally well established. The most effective instrument is the individual intelligence test (e.g., Stanford-Binet or Wechsler), but this method is rather expensive in terms of time, personnel, and money. Although it may be useful in certain instances, such as confirming borderline or doutful cases, the individual test is not very practical for general screening. For this purpose, it makes more sense to use the slightly less accurate group tests of intelligence.

When using group tests for screening (i.e., for creating a pool of students for eventual selection), it is wise to recall that group tests may pass over students with reading difficulties, emotional or motivational problems, or students from disadvantaged backgrounds. It is also important to supplement these tests with other indicators of ability in order to be more certain of obtaining an accurate, stable measure and also to be more certain that the student - especially in the early grades - is not merely a "hothouse gifted child" (i.e., an over-achieving child of less than superior ability from a super-enriched home).

Batteries of achievement tests are also used as supplements in the screening process. Students achieving two or more years above grade level deserve further scrutiny. Naturally, attention will be focused mainly on those subtests which describe performance in the academic areas for which the special program is designed. Poor achievement in math or science, for example, should not disqualify a candidate for a creative writing class. In addition to sharing the same limitations as group intelligence tests, achievement tests also fail to identify gifted underachievers unless the scores are viewed <u>in combination with</u> IQ scores.

The least accurate method of identifying intellectually gifted children is - sad to say - teacher nomination. The comprehensive study by Pegnato and Birch (1975) reveals that junior high school teachers nominated only 45% of students already identified as gifted on individual IQ tests. Moreover, 75% of the total number of children that they nominated were not really gifted at all. Despite these findings, there are probably a number of teachers, especially in the primary grades, who have a remarkable ability to spot "that certain spark" in a gifted child who might otherwise be missed by standardized instruments. Teacher judgments of demonstrated or potential ability can be improved considerably by the use of rating scales and check-lists such as those included in Section II.

Other important supplemental measures might include special aptitude tests, creativity tests, interest inventories, peer nominations, and self-assessment. Anecdotal reports on motivation and work habits and observations of school librarians and guidance counselors frequently add useful information. Interviews with the students and their parents in order to assess maturity, social and emotional development and other factors effecting participation in the program constitute a final step in the process before a decision is made regarding placement.

In determining final selection of children for the pool established by the above-mentioned criteria, certain cut-off points become crucial, especially in order to qualify for state reimbursement in Connecticut. State guidelines recommend a minimal cut-off point of two standard deviations above national norms on intelligence and achievement tests, unless the means for the local district are higher (as may be the case in affluent communities). Such students will represent roughly the top 3% of the population and will show IQ scores of 130 and beyond.

It is important to recall that these guidelines apply to the traditional, "Terman-type" of intellectually gifted students. Obviously, programs which are designed for artistically creative students, high-potential disadvantaged students, or underachievers will have different selection criteria and need not hew to the traditional cut-off points, since it is expected that there will be other relevant indicators of exceptional talent in the absence of high IQ scores.

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IDENTIFICATION OF

CREATIVE THINKING ABILITIES

IDENTIFICATION OF CREATIVE THINKING ABILTIIES

In recent years creativity has been of major concern to educators and psychologists. This interest has grown out of the general concern for individual differences as well as that of the expanding concept of giftedness. The work of Getzels and Jackson, among others, helped focus attention on the cratively gifted. Their study indicated that creativity is a relatively distinct and separate ability, having a rather low correlation with IQ scores. It was observed, for example, that of the top fifth in creativity, only thirty percent were in the top fifth in intellectual giftedness.

There are various theories as to why people are crative. One theory is that creative persons have abilities in the "divergent production slab" of the Guilford's Structure-of-Intellectual model. Another view, supported by Maslow and Rogers, holds that creativity is a natural outcome of good mental health, or of self-actualization.

A number of centers of interest and research related to creativity have become active throughout the nation. Prominent among the proponents of creativity in the classroom are Parnes, Torrance, Williams, Taylor, and Renzulli. Each has a somewhat different approach and point of view, and this has created some differences as to the exact nature of creativity and what should be done to foster it. However, some general areas of agreement are becoming evident:

I. DEFINITION

Creativity involves the ability to produce new forms -- to conjoin elements that are customarily thought of as independent or dissimilar.

Some components which make up creativity are:

A. Sensitivity to problems,
B. Fluency of ideas and associations,
C. Flexibility,
D. Originality,
E. Redefinition or the ability to rearrange,
F. Analysis or the ability to abstract,
G. Elaboration,
H. Synthesis and closure,
I. Coherence of organization,
J. Evaluation.

Some of the difficulty in defining creativity arose from a failure to differentiate between the various levels of creativity which are given by Calvin Taylor as:

Expressive - Independent expression in which skills, originality, and quality are unimportant.

Productive - Production of a product through mastery over some portion of the environment.

Inventive - Ingenuity in seeing new uses for old parts (no new basic idea involved).

Innovative - A significant alteration in the basic foundations or principles of a theory (needs highly developed abstract conceptualizing skills).

Energentive - Ability to absorb the experiences which are commonly provided and from this produce something new.

The process by which the creative process evolves includes preparation, incubation, illumination and elaboration.

II. CHARACTERISTICS OF CREATIVE INDIVIDUALS

Some studies list as many as eighty-four characteristics which may be attributed to creative individuals. Those which occur most frequently in studies are:

Curious	Flexible	Persistent
Original	Open	Fluent
Independent	Sensitive	Elaborative
Imaginative	Intuitive	Sense of Humor
Nonconforming	Energetic	Playful
Perceptive	Questioning	

The study of creative adults has indicated undesirable personality factors which have probably grown out of the lifelong struggle to voice their creative efforts and seek acceptance for them. It is felt that creative children, if identified, nurtured, and valued, can be helped to adapt those aspects of their personalities which could clash with others.

III. IDENTIFICATION

At this time it is not clearly understood whether creativity is a unitary process or made up of a composite of many processes. Objective measures for assessing some of the components of creativity are in the developmental stage -- some are being validated at the present time. Generally, these measures explore the individual's ability to think of:

A. Regular or alternative used for objects,
B. Consequences in connection with a new or unusual situation,
C. Things that belong in certain classes,
D. Sentences when given the beginning of letters of workds,
E. Words of similar meaning to the given word,
F. Figures or pictures which may be developed from a mark or line,
G. Ways of elaborating upon details or pictures,
H. New patterns by removing parts of a given pattern.

Although there is no single, universally accepted way of identifying the creative child, there is enough experience with some of the tests

of creative abilities to have some confidence in them for identifying those with higher creative potential.

The Torrance tests emphasize divergent production and transformation abilities. The tests used by Getzels and Jackson include four divergent-production abilities and three transformation abilities. Guilford also has tests which tap a number of divergent-production abilities. Starkweather's tests are particularly useful with very young children. A variety of other tests, including personality and biographical indicators, may be found in the annotated listing of instruments in a later section of this publication. In addition, teachers and others can identify children who show unmistakable signs of creative potential in behavior and/or in the products they produce. Just because a child is creative in one area, is not a reason to assume he is creative in others. Persons with special training in art, music, and theater are needed in the identification of these kinds of creative talents.

IV. IMPLICATIONS FOR THE SCHOOL

It is thought that creativity cannot be developed in individuals unless they already possess those traits which constitute creativity. It is felt that the attitude should be more one of "making it possible for creativity to emerge." Many researchers feel the environment should be "responsive" rather than just "permissive." E. Paul Torrance and others who have succeeded in helping children to be more creative in their thinking and writing have suggested the following as factors in a responsive environment:

A. Include a variety of learning tasks in the day's activities as some children prefer to learn by discovery rather than by authority.
B. Bring more stimuli into the learning experiences, and
C. Ask questions which elicit unique or original responses.

IDENTIFYING THE CULTURALLY DIVERSE GIFTED

IDENTIFYING THE DISADVANTAGED GIFTED

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It is sad when a "pint" is expected to yield a "quart" and fails to do so but it is a tragic loss to society when a "quart" produces only a "pint" or much less for lack of proper societal effort and programs.

- Baldwin, 1973

Early identification of the gifted disadvantaged and appraisal of the seeming range (intellectual, talented and creative socially gifted) and quality of their giftedness is of importance to the individual and our nation; the indivudual - because he is afforded an opportunity to develop his personal talents to the utmost - the nation benefits because he is afforded an opportunity to develop his personal talents to the utmost.

- Cooke, 1974

The recognition of the wasted talent among the so-called gifted disadvantaged has prompted a concentration of interest among those who would like to see this waste ended. Numerous articles and books have been written and numerous experimental programs and research projects have been implemented. Yet, many of the practitioners in the field of education charged with the responsibility of salvaging this talent are still not clear who these students are, what their needs are, and how these needs might best be met.

It would be an impossible task within the scope of this paper to recommend any clear cut rule-of-thumb definition for the identification of the gifted disadvantaged for the well-accepted axiom - "There are more differences within any group of human beings than between groups" - is particularly applicable in this case. Therefore, this paper will be an attempt to clear up two semantic obstacles: (1) Who is the advantaged child? and (2) Who is the gifted disadvantaged child? Then, a composite of thoughts from the best writers on the subject of characteristics of the gifted disadvantaged will be presented. Finally, additional sources will be suggested or attached to this report for more complete definitive readings on the topic "gifted disadvantaged."

WHO ARE THE DISADVANTAGED?

The answer is simple: the poor, no matter what racial or ethnic antecedents they possess. Bailey and Stadt (1973) sum it up very nicely when they commented that the term "disadvantaged" is relative in the sense that not all individuals who are classified as disadvantaged exhibit the same general characteristics. The one common denominator, however - the stark reality behind "disadvantaged" and other generally used euphemism - is that they refer to populations of children of the poor.

Finally, Havighurst (1964) reminds us that it should be reasserted that culturally disadvantaged is a relative term. That is, a child can be said to be disadvantaged only with respect to another individual. More specifi-

cally, the term means disadvantaged for living competently in an urban, industrial, and democratic society.

According to percentages cited by Hyram (1972), although seventy to seventy-eight percent of his group are Caucasian, since these Caucasions constitute only a relatively small percentage of the total Caucasian population in the United States, the greater percentage of the poor are found among Negroes, Mexican-Americans and Indian Americans. In terms of racial identification, Johnson (1970) identifies six groups of culturally disadvantaged as follows:

1. Negroes in the rural area and in the ghettos of the nation's centers;

2. Mexican-Americans in the rural Southwest and West and in the cities of these regions;

3. Puerto Ricans located in a few large Northern cities, especially in New York;

4. Caucasians in the rural South and especially in the Appalachian region, many of whom have migrated to Northern industrial urban centers;

5. Indian Americans in the Southwest and West, living for the most part on reservations and in increasing numbers in the cities;

6. Other ethnic groups which sometimes cut across racial boundaries, including European immigrants, Cuban refugees, and Eskimos in Alaska.

These racial or ethnic groups share many common characteristics that may stem from physical differences or from unique sub-cultural heritages developed to cope with environmental circumstances. However, the fact still remains that these groups constitute the major portion of those characterized as culturally disadvantaged.

The major concern, however, should be the attitude of the more affluent (particularly educators) towards those who are disadvantage, for this attitude perpetuates the syndrome of the disadvantaged and helps to keep them locked in their poverty. The condescending chain must be recognized and broken if we hope to ever realize some of the vast potentials still untapped among this group.

WHO ARE THE GIFTED DISADVANTAGED?

Havighurst's definition of the gifted is all-encompassing, even of the gifted disadvantaged. He states that "We should consider any child gifted who is superior in some ability that can make him an outstanding contributor to the welfare of and quality of living in society."

Stallings (1972) goes a step further and defines gifted according to two groups. The "first order gifted" applies to the extremely gifted child, or the student in the upper one percent of his class. This child is recognizable in any community whether urban or suburban, regardless of socioeconomic

circumstances. Even in a disadvantaged school he excels both in traditional and environmental methods of testing. He is able to discern differences, recognize similarities, snythesize and generalize better than his peers; or he may be average in these categories but still show outstanding ability in other valuable areas.

The second classification is the "second order gifted." He/or she is less easily recognized especially in traditional methods of testing. But it may be due to the failure of classroom activities to stimulate and challenge his creativity.

Therefore, Stallings classifies as gifted only those disadvantaged students who score well above the average on cognitive, affective, and psychomotor tests, be they traditional or environmental. Those students who show talent in a specialized area he called "talented." Those who demonstrate exceptional ability in applied performance he called "high potential."

Stallings made the following comments on identification of disadvantaged students*:

1. Traditional methods of testing may be highly predictable in surfacing "first order gifted" students but evaluation of "second order gifted" with traditional methods of testing may lead to confusion.

2. Traditional as well as "teacher developed" methods of evaluating urban disadvantaged students should be developed as screening instruments.

3. Teachers are encouraged to develop environmental methods of testing as screening instruments which utilize the radius of the child's community as the contents of a screening instrument.

4. Peer evaluation which may be gathered by class feedback in the form of a sociogram is another way of identifying gifted disadvantaged children.

CHARACTERISTICS OF THE GIFTED DISADVANTAGED

The literature is replete with characteristics of the disadvantaged child. Many writers, in addition, urge thinking of these characteristics as positives rather than negatives as they are frequently noted, that can be cultivated for increasing the potentials or achievements among disadvantaged children. A few of these listings of characteristics are summarized here.

Torrance (1972) has outlined the following creative positives of disadvantaged children and noted that these characteristics occurred to a high degree and with a high frequency among disadvantaged children:

1. Ability to express feelings and emotions;

2. Ability to improvise with commonplace materials;

3. Articulateness in role-playing and storytelling;

4. Enjoyment of and ability in visual art - drawing, painting, sculpture, etc.;

5. Enjoyment of and ability in creative movement, dance, dramatics, etc.;

6. Enjoyment of and ability in music, rhythm, etc.;

7. Expressive speech;

8. Fluency and flexibility in non-verbal media;

9. Enjoyment of and skills in group activities;

10. Responsiveness to the concrete;

11. Responsiveness to the kinesthetic;

12. Expressiveness of gestures, "body language," etc.;

13. Humor;

14. Richness of imagery in informal language;

15. Originality of ideas in problem-solving;

16. Problem-centeredness;

17. Emotional responsiveness; and

18. Quickness of warm-up.

It is to be noted that he feels that the above qualities can be regarded as positives or strengths that can be capitalized upon to facilitate learning and achievement.

Reissman cited several positives of the culturally disadvantaged that might be used in structuring positive experiences for capitalizing on potentials:

1. Cooperativeness and willingness to give mutual aid;

2. Love of independence;

3. Enjoyment to be found in music, games, and sport activities;

4. Belief in both the desirability and worthwhileness of expressing one's feelings, be they anger or joy;

5. Concern for the tangible;

6. Interest in the externals to self, rather than the self per se;

7. Greater concern for the spatial than the temporal;

8. Admiration of the aggressive over the passive;

9. Desire for the problem-centered or the practical as opposed to the abstract theoretical; and

10. Tendency toward the physical and visual as approaches to learning.

In her discussion of programming, Baldwin (1973) described gifted disadvantaged children as having a capacity for abstract, divergent thinking along the higher levels of the various hierarchial arrangements which is outstandingly different from any greater than that of the average child; therefore, planning in these categories, that is, objectives and learning activities, should reflect, over a period of time, emphasis in these areas. Said differently, she suggested that we want to make sure we stretch those young minds.

In dealing with the gifted disadvantaged child, Baldwin notes the following three precautions that should be noted:

1. Capability for operating at higher levels of the thought processes does not preclude the lack of need for development in the lower levels. It is only that these children will need much less time to develop the lower level thought processes, i.e., memory, comprehension, etc.;

2. Disadvantaged gifted children often exhibit their innate abilities in ways which are not always standard. It is important that we understand the intellectual skills being used in the exhibited behaviors, and the cultural context of its origin. We then build on those areas of strength and develop those areas of weakness. This student then should be directed to develop horizontally those special skills he/she possessed at his/her "entry level" while being directed vertically on those skills in which he/she was weak; and

3. The gifted disadvantaged child will need more initial support in his/her new opportunities to explore.

For children who come from lower socioeconomic levels, certain characteristics are reported that may affect test performance in general and the accuracy or precision of test results in particular. Though the reported characteristics are not always consistent from one investigation to another, it is hypothesized that in contrast to the middle-class child, the lower-class child will tend to be the following:

1. Less verbal;

2. More fearful of strangers;

3. Less self-confident;

4. Less competitive in the intellectual realm;

5. More "irritable";

6. Less conforming to middle-class norms of behavior and conduct;

7. More bilingual;

8. Less exposed to intellectually stimulating materials in the home;

9. Less varied in recreational outlets;

10. Less knowledgeable about the world outside his immediate neighborhood; and

11. More likely to attend inferior schools.

Such characteristics - even if only some of them apply to each "deprived" minority group - will undoubtedly be reflected in test-taking and test performance.

The report from which the above materials came**, gives further guidelines to be observed when using traditional tests with disadvantaged children.

SUMMARY

This paper has attempted to briefly describe some of the characteristics of disadvantaged potentially gifted children that might affect their performance in an educational environment and cause them to go unnoticed. The chief responsibility rests with those who design and implement programs for the gifted. They must be dedicated to look beyond traditional tests for identification of those youngsters whose native curiosity, originality, imaginativeness, inquisitiveness and oncceptual and analytical thinking is indicative of potentials to achieve. They must also be constantly aware that an impoverished background does not mean that a child is incapable of achieving, of being resourceful or of demonstrating initiative in the pursuit of educational interests. They must be the unbiased catalyst to stimulate the talented and gifted disadvantaged student to realize his potentials for the betterment of him/herself and for the benefits to our society.

FOOTNOTES

*Comments on environmental testing as referred to in this summary of an article by Stallings apply to research that he has conducted in development of an environmental testing instrument for identifying the gifted dis advantaged child. He has field tested this instrument on urban students in Hartford, Connecticut, and in San Diego, California.

**Fishman, Joshua A., Chairman. "Guidelines for Testing Minority Group Children," prepared by a work group of the Society for the Psychological Study of Social Issues, Journal of Social Issues, April 1964, XX, No. 2, 129-145.

SUGGESTED READING

1. Barnes, Edward, "IQ Testing and Minority School Children: Imperatives for Change", National Leader Institute, Teacher Education/Early Childhood, The University of Connecticut, Technical Paper, Storrs, Connecticut.

   Abstract: Dr. Barnes' paper tells why wise school people are turning away from IQ tests for minority children and offers solid alternatives to these tests.

2. Hyram, George H., Socio-Psychological Concepts Relating to Teaching the Culturally Disadvantaged, 1972. (Pageant-Paseidon, Ltd., Brooklyn, New York)

   Abstract: This book is Volume I of a trilogy called Challenge to Society: The Education of the Culturally Disadvantaged Child. Volume I represents the content and procedures of an experimental program for teachers offered as one means through which teachers of the culturally disadvantaged might be led to achieve a new perspective of their roles as teachers: a newer and more realistic concept of the potentialities of the children they teach and higher ultimate hopes for these learners.

3. Johnson, Kenneth R., Teaching the Culturally Disadvantaged: A Rational Approach, 1970 (Science Research Associates, Inc., Palo Alto, California)

   Abstract: The purpose of this book is to provide teachers of culturally disadvantaged children with realistic and practical guidance, and to improve human relations and understanding among all who are engaged in the educational process from kindergarten through the twelfth grade. Specific objectives include:

   a. Help teachers acquire some understanding of the groups of culturally disadvantaged children in American classrooms. Understanding these children is essential to teaching them.

   b. Offer suggestions and techniques for teaching the culturally disadvantaged child.

   c. Stimulate thought and promote discussion among teachers of culturally disadvantaged children.

4. Frierson, E. C., "A Study of Selected Characteristics of Gifted Children from Upper and Lower Socioeconomic Backgrounds." Unpublished doctoral dissertation, Kent State University, 1964.

   Abstract: A study conducted with gifted students from different social class backgrounds. Findings showed a close similarity in personality patterns, but the gifted disadvantaged showed less super-ego development or self-discipline and preferred sports and games to reading. Despite this finding, however, the lower class gifted showed clear preferences for reading over the lower class average child.

5. Torrance, E. Paul, "Training Teachers and Leaders to Recognize and Acknowledge Creative Behavior Among Disadvantaged Children." The Gifted Child Quarterly, Volume XVI, No. 1, Spring, 1972.

Abstract: This article describes the essentials and summarizes the highlights of an evaluation of a design developed by Torrance for training teachers to recognize, acknowledge, and use the creative positives of disadvantaged children.

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TALENT POTENTIAL IN MINORITY GROUP STUDENTS

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Joseph S. Renzulli

> It seems probable that our society covers and develope no more than perhaps half its potential intellectual talent.
> Robert J. Havighurst (1961)

There can be little doubt that our nation's largest untapped source of human intelligence and creativity is to be found among the vast numbers of individuals in the lower socioeconomic levels, particularly among the approximately 20 million black Americans. It would be a monumental task to explore all of the causes that have contributed to our failure to discover, stimulate, and make the most efficient use of this neglected source of talent. Intensified efforts to overcome this failure are based in part on the simple realization that an invaluable natural resource is being wasted daily by a system of education that has shut its eyes and turned its back on the children of the poor. The by-products of this waste are evident in unprecedented urban turmoil, in unemployment and underemployment, in rising crime and delinquency rates, and most importantly, in the human despair that accompanies thwarted expression and creativity.

Although massive efforts have been directed toward overcoming the inadequacies of educational programming for the culturally disadvantaged, relatively little attention has been focused on those youngsters within the total population of disadvantaged youth who have unusually high potentials for learning and creativity. The numerous compensatory programs that deal mainly with remediation in the basic skill areas and preparation for entrance into the labor market generally have overlooked the talent potential that exists in lower socioeconomic and minority group youngsters. A number of persons have called attention to the dimensions of this untapped source of talent (Douglass, 1969; Torrance, 1968), and a few would disagree that the time is long overdue for a systematic nationwide effort in talent retrieval. This article describes the dimensions of the talent potential among low socioeconomic and minority group members, and explores some of the issues and strategies involved in identifying talent potential and constructing educational programs which will maximize the development of this unidentified and underestimated segment of our school population.

THE NATURE AND SCOPE OF TALENT LOSS

What exactly are the dimensions of the talent potential among minority groups, and what will be the costs of further delay in providing opportunities for the expression of such potential? A large body of accumulated research clearly indicates that gifted and talented children can be found in all racial groups and at all of society's economic levels. With respect to family background, Terman's (1925-1959) study of gifted children showed that, in actual numbers, the nonprofessional

segment of the general population contains more than twice as many gifted children as the professional group. Regarding racial and ethnic origin, Miles (1954) reported that many high IQ black children can be found in black communities. Studies by Jenkins (1948) and Witty and Jenkins (1934) indicated that race per se is not a limiting factor in intellectual development, that black children with high IQs come from a variety of backgrounds, and that educational achievement of highly able black children resembles that of other gifted youngsters. In more recent years, the works of Hunt (1961), Bloom (1964), and others have called attention to the significant role that environment plays in intellectual development. The massive number of research studies summarized in these works have crucial implications for the role that education can and should play in developing the high potential of youngsters from all races and social classes.

In addition to those studies concerned mainly with the older or more traditional definitions of giftedness (i.e., giftedness in terms of IQ), a rapidly expanding body of literature dealing with a broader conception of talent development has recognized that children from depressed areas, low income groups, and racial minorities probably represent our largest unmined source of creative talent (Passow, 1966; Torrance, 1968). The importance of identifying and developing creative talents at all levels of society has caused leading philosophers and educators to focus their attention on this problem. In an article entitled, "Is America Neglecting Her Creative Minority?", Toynbee (1964) commented:

> To give a fair chance to potential creativity is a matter of life and death for any society. This is all-important, because the outstanding creative ability of a fairly small percentage of the population is mankind's ultimate asset, and the only one with which only man has been endowed (p.4).

It cannot be denied that society stands to benefit from a systematic investment in the development of this vast source of untapped talents; yet, major inequalities of opportunity are still evident in our schools. The inferiority of existing schools for low income and minority group children has been indicated clearly by studies which show that the longer children stay in these schools, the further behind they become in achievement and the wider the gap grows between what they should know and their actual level of performance (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, and York, 1966; Sexton, 1961). Average drops in measured intelligence of as much as twenty points have been recorded as black children progress (or perhaps it should be regress) through grades (Passow, Goldberg, and Tannenbaum, 1967). Other studies dealing with delinquency, level of aspiration, self concept, aggressiveness, alienation, and a host of other variables reveal similarly ominous findings about the current state of the school situation for disadvantaged youngsters (Coleman, et al., 1966: Mathis, 1969; Williams and Byars, 1968). Under circumstances such as these, even the most highly able and well motivated students from minority groups surely must lose faith in a system where the probability of nonsuccess is so high.

In spite of these grim statistics, there is a growing realization that a wealth of creative talent is lying unidentified and understimulated in schools that serve urban ghetto and rural poor youngsters. The decade of the 1960's may well be remembered as a period in our history when the education establishment began to pay serious attention to the detremental effects which result from the inferior opportunities that exist for a large segment of our population. Books such as How Children Fail (Holt, 1966), Death at an Early Age (Kozol, 1967), Pygmalion in the Classroom (Silberman, 1970) have literally shocked us into the reality of the situation. If we look upon the activities and pronouncements of the Sixties as the first step in a direct frontal attack upon the problem of educational equality, then the heightened interest of that decade certainly can be regarded with optimism. But our view should not be blurred by such optimism; for scattered attempts to "do something" for the culturally disadvantaged thus far represent little more than the proverbial "drop in the bucket" when compared to the great number of youngsters whose day to day school experience is nothing short of an educational and psychological disaster. If, on the other hand, the ground work laid during the Sixties has not been a false start, then action to correct this crucial problem in our schools remains the challenge and the task before us. The remainder of this article deals with some of the work that has been done in the area of identifying talent potential among low socioeconomic and minority group youngsters and developing educational programs to help this talent potential be realized.

IDENTIFYING TALENT POTENTIAL

A number of psychologists and educators who have wrestled with the problem of defining human abilities have advanced the thesis that a variety of talents contribute to the accomplishments of man. Early definitions of giftedness based solely on measures of intelligence have largely ignored the existence of a much broader spectrum of highly valuable human characteristics. In view of the heavy cultural loading of most standardized tests of intelligence and achievement, it is apparent that an identification process that depends mainly on traditional measures of performance will discriminate against youngsters who have not participated fully in the dominant culture. Attempts to circumvent this problem through the construction of culture free or culture fair intelligence tests have failed to yield measures that neutralize the influence of important factors in mental growth, such as perceptual and linguistic deprivation, the repression of constructive play activities, family insecurity and limited adult role models, and the effects of inferior school experiences. Thus, it seems safe to conclude that both traditional tests and so called culture free tests have had the effect of creating a limited conception of the abilities which our society values. Both reflect the emphasis which the dominant culture and formal education place on the ability to deal effectively with language, symbols, and abstraction.

A Broadened Concept of Talent

In recent years a growing number of theorists and researchers have provided us with a much broadened conception of the nature of human abilities. Foremost among the newer models is the well known structure of the intellect cube developed by Guilford (1967) and his associates. This model consists of a three dimensional classification system designed to encompass and organize

120 possible talents according to (a) the type of mental operation employed, (b) the content involved in the thinking process, and (c) the type of product which results from the act of thinking. Williams and Eberle (1967) developed a similar model which identified 23 classroom teaching strategies that can be used to develop seven productive thinking operations in various subject matter areas, while Taylor's (1968) multiple talent model isolated an additional set of distinguishable abilities in areas such as creativity, decision-making, planning, forecasting, and communications.

Taylor suggested a grouping of talents based on the world-of-work needs and pointed out that if we limit ourselves solely to academic talent, only the top 10 percent will fall into the highly gifted class and only 50 percent of our students will have a change to be above average (i.e., above the median). On the other hand, if we measure students across several different talents, the percent of highly gifted students will increase tremendously:

> When we arrange a group of students on each of several talent ladders, those at the bottom of the old academic talent ladder - those heretofore labeled "educationally deprived" - will rise as a subgroup to be almost average as far as each of the other five types of talents are concerned. A third or more of them are likely to be above average on each new talent ladder. Since we have not been reaching these students, we should try eliciting as many different talents as possible. If we succeed, then those who had not been flourishing in the old talent area will discover some areas where they are promising individuals and perhaps even star performers (Taylor, 1968, p. 68).

Thus the application of a multiple talent approach in our schools will result in greater numbers of students achieving higher degrees of success both in and out of school. According to Taylor, a natural by-product of this approach will be an increase in the student's individuality. Each student will experience and display his own unique profile across talents and will thus become more self-directed.

Suggestions for Identification of Multiple Talents

The taxonomies developed by Bloom (1956) and Krathwohl, Bloom, and Masia (1964) provide another classification system for isolating cognitive and affective processes that clearly identify dimensions of man's repertoire of behaviors. These behaviors often are not measured by traditional tests of intelligence or are "buried" in the general scores which many of these tests yield. A good example is the limited range of abilities sampled by the Scolastic Aptitude Tests (SAT). According to a recent report by the Commission on Tests (1970), the SAT has been found to be mainly a measure of developed verbal, mathematical, and reasoning abilities, and thus, it fails to take account of the educational potential of college applicants who for one reason or another have been educationally disadvantaged. The Commission has recognized the need for a broader concept of college admission criteria and has suggested that the SAT be expanded to include measures of the following abilities:

1. Adaptation in new learning situations;

2. Problem solving in situations that require it;

3. Analysis, search, and synthesis behaviors;

4. Information management, processing, and utilization skills;

5. Nonstandard information pools;

6. Comprehension through experiencing, listening, and looking, as well as reading;

7. Expression through artistic, oral, nonverbal, and graphic, as well as written symbolization;

8. Characteristics of temperament;

9. Sources and status of motivation;

10. Habits of work and task involvement under varying conditions of demand (Commission on Tests, 1970, vol. 2, p. 44).

The Commission further suggested that test procedures should be redesigned (a) to broaden the varieties of subject-matter, competencies, and skills assessed; (b) to examine achievement in a variety of contexts; (c) to make greater use of openended and unstructured indicators of achievement; and (d) to assess nonacademic achievement such as social competence, coping skills, avocational skills, and artistic, athletic, political, and mechanical skills.

With these and other models to assist in defining and classifying a variety of human abilities, the next step should consist of the selection or development of appropriate instruments to identify a broad range of talent potential. Bruch (1971) suggested using Guilford's model to diagnose different patterns of abilities reflected in existing test items and to specify factors and clusters of factors that represent the strengths and weaknesses of particular individuals or cultural groups. Tests then could be designed to fit cultural strengths, and such tests could be used to measure both conventional abilities and those talents which are valued most by an individuals own culture. Bruch further suggested a case study battery for the identification of gifted disadvantaged youngsters that would include a profile of their strengths and developmental needs, ratios of time in school to developmental levels and achievement levels, and an analysis of positive and negative factors (both sociocultural and personal) which either enhance or inhibit further development of talents.

Torrance Tests of Creative Thinking

Additional strategies for identifying hidden talent among the disadvantaged have been developed by Torrance (1969). Through the use of instruments such as the Torrance Tests of Creative Thinking (Torrance, 1966), youngsters are given an opportunity to respond in terms unique to their own culture. Such an approach avoids the problem of evaluating the child through experiences that are common to the dominant culture, and at the same time, helps to

create a psychologically safe atmosphere which will motivate him/her to put forth his/her greatest effort. On the basis of research studies carried out with disadvantaged groups, Torrance (1964, 1967) has identified the following set of creative characteristics which he found to occur with relatively high frequency among disadvantaged children:

1. High nonverbal fluency and originality;
2. High creative productivity in small groups;
3. Adeptness in visual art activities;
4. High creativity in movement, dance, and other physical activities;
5. Ability to be highly motivated by games, music, sports, humor, and concrete objects; and
6. Language rich in imagery.

Research conducted by Torrance and his associates over a period of twelve years has led to the conclusion that children of economically deprived and minority cultures seemed to perform as well as those from any other group. In a recent review of the literature dealing with the use of the Torrance Tests of Creative Thinking, Torrance (1971) summarized the results of fifteen research studies which focused on the creative abilities of low socioeconomic and minority group children. Generally, these studies indicated that although whites surpassed blacks on verbal measures, there were no significant differences on scores of figural fluency, flexibility, and originality; and in some cases, the so-called disadvantaged groups surpassed the middle class groups. Although measures of intelligence have been found consistently to correlate positively with socioeconomic status, the research summarized by Torrance seems to indicate that creativity bears little relationship to factors such as race, social class, and level of parental education. Thus, a convincing argument is presented for a relatively culture free method of identifying a bountiful supply of creative talent. Torrance explained the belief that in many ways the life experiences of low socioeconomic youngsters may actually be more supportive of creative achievement than the experiences of more advantaged children:

> Their lack of expensive toys and play materials contributes to their skill in improvising with common materials. The large families and life styles of disadvantaged families develop skills in group activities and problem-solving. Positive values placed by their families on music, rhythm, dance, body expressiveness, and humor keep alive abilities and sensibilities that tend to perish in more advantaged familites (p.79).

Biographical Indices

The recently developed Alpha Biographical (Institute for Behavioral Research in Creativity, 1968) provides another strategy for identifying creative talent among disadvantaged and minority group youngsters. This instrument, consisting of 300 items through which an individual is asked to describe him/herself and his/her background, is based on the belief that past behavior,

experiences, and self-descriptions can be used as indicators of future performance. A number of research studies carried out by the developers of the Alpha indicate that it can be used as an aid in identifying a number of different talents which are important for both academic performance and performance in a variety of work situations. The significance of this instrument lies in the fact that creativity scores and scores on a number of other factors bear little or no relationship to race. In other words, for certain abilities, the Alpha does not discriminate against persons from racial minorities.

The Sub-Cultural Indices of Academic Potential (SCIAP, Grant and Renzulli, 1971) is another instrument designed to take account of problems of test bias, the cultural distinctiveness of minority group members, and the growing concern on the part of high schools and colleges to identify high potential minority group students for supportive educational programs. The instrument consists of 145 items which ask students to indicate how they feel about themselves and how they would react in situations that are common to their every day experiences. There are no right or wrong answers to the SCIAP items, but rather, the instrument yields a profile that points out student preferences and learning styles in areas such as: the organization and management of information, commitment to social responsibility and leadership, flexibility in social situations, originality in cultural context, initiative and persistence, self concept, attitudes toward education, and support of family and school toward continuing education.

Language and Development Considerations

Two additional considerations should be pointed out in discussing the issue of identification. First, one of the major characteristics of the disadvantaged is their inability to master the linguistic and grammatical structures of the dominant culture. For this reason it is necessary to develop identification strategies which are not language dependent. Furthermore, because most youngsters have a greater facility with the spoken rather than the written word, it is especially important that the disadvantaged child not be required to "write down" all of his responses. Tape recorders or human recorders can serve in uncovering higher forms of thinking which might otherwise go undetected because of limited writing ability.

Finally, the identification of talent potential among the disadvantaged should be a continuous process that begins in the early years and that is carried out with unusual frequency. Until more and better predictive instruments are available, talent searches should take place in the classroom on a regular basis. Because of the dynamic nature of abilities such as creativity, efforts to make long range predictions should be replaced with frequent assessments of a variety of talents. These assessments should be followed by carefully designed classroom activities which are constructed specifically to enhance those talents which have been identified.

DEVELOPING TALENT POTENTIAL

Although strategies for identifying different types of human abilities are in varying stages of maturity, enough is known about developing talent potential to allow us to do some systematic programming in this area. Two major factors in the development of outstanding abilities are (a) the character-

istics of the teacher and (b) the relevancy of the curriculum.

Teacher Characteristics

One major generalization about teacher characteristics stands out from the vast amount of recent literature dealing with programming for the disadvantaged: "Experienced teachers who feel personal satisfaction in working with disadvantaged students are the key to successful compensatory education in poverty area schools (Phi Delta Kappan, 1970, p. 338)." This was the finding of a study which investigated 32 programs reporting substantial improvements in the achievement of low income students. Thus, careful teacher selection appears to be a major consideration in programming for the disadvantaged. Furthermore, in situations where talent development is a primary goal, it is especially important to select teachers who are committed to the task of working with disadvantaged youngsters in the development of a variety of talents. Teachers without such knowledge are likely to approach talent development in a piecemeal and haphazard fashion.

Space does not permit a detailed discussion of the several approaches to talent development which can be found in the literature (see for example, Gregory, 1967; Parnes and Harding, 1962; Williams and Eberle, 1967); however, two general suggestions are offered as necessary first steps for systematic programming in this area. First, the teacher should have a functional knowledge of one or more of the models described previously. Using the model(s) as a guide enables the teacher to plan a wide variety of activities that are designed to nurture specific talents. If teachers are unaware of the behavioral characteristics and dimensions of various types of abilities, it seems unlikely that they will be able to plan purposeful activities to promote the development of these abilities.

A second suggestion relates to knowledge about specific strategies that have already proved their usefulness by promoting creative problem-solving in business and industry. Techniques such as attribute listing, morphological analysis, brainstorming, and forced relationships are easy to learn and readily adaptable to a variety of classroom situations. However, it is the teacher's initiative in applying these techniques that will make the difference between an exciting, "mind expanding" experience and a routine classroom activity. The teacher who is coverage dominated, i.e., one who judges his effectiveness by the number of chapters or units that he covers during a given period, probably will never find time to develop abilities other than the so-called basic skills.

Relevancy of the Curriculum

While remediation in the basic skill areas must be an important goal of compensatory education, it should not, of course, be the only objective of the programs which serve the disadvantaged youth. Activities for talent development can be built into areas of the curriculum, and because of the inherent fun and excitement of activities such as the type described previously, added dividends are likely to accrue in the form of increased motivation and improved performance in the basic skills of learning.

High potential disadvantaged youngsters are vitally interested in the social changes taking place around them in their neighborhoods and in the

society at large. Thus, it is little wonder that they get "turned off" by a curriculum which deals with the exports of Brazil and the names of Columbus' ships when rallies against racism and demonstrations in Washington are the real issues with which they would like to deal. These issues provide excellent opportunities for constructing activities that promote decision-making and social leadership skills. Exercises which encourage imaginative solutions to real life problems have a much greater likelihood of promoting creativity than the time worn chore of writing a story about "what I did last summer."

In their book, Compensatory Education for the Culturally Disadvantaged, Bloom, Davis, and Hess (1965) called attention to the importance of curricular relevancy by listing the following objectives as one of the four major goals of education for the disadvantaged:

> Increasing stress must be placed on those aspects of interests, attitudes, and personality which will promote the further growth of the individual, enable him to find satisfaction in the things he does, and help him to find meaning and fulfillment in his life. The effects of automation, the shorter work week, urban living, and the fast pace of change on the national as well as international scene, require individual character development which will enable each person to live with himself and with others under conditions very different from those which have prevailed (p. 3).

A somewhat simplified and yet operational definition of a relevant curriculum is: a set of experiences which deal with topics and issued that youngsters would talk about if given a free choice. If we are really serious about a process-centered rather than content-centered curriculum (and experiences that attempt to promote specific talents certainly must be considered process-oriented), then the issues that youngsters prefer to talk about, those that they discuss before and after the school bell rings, provide fertile ground for the development of a wide range of talents.

BASIC ELEMENTS OF A TOTAL PROGRAM OF TALENT DEVELOPMENT

Although highly qualified teachers and relevant curricular experiences are considered to be major factors in programming for high potential youngsters, a total approach to talent development also should include a number of other characteristics. Douglass (1969) pointed out four essential elements of an ideal system for maximizing the talent potential of low socioeconomic and minority group members.

The first element has greater flexibility in the ways in which schools are operated and performance evaluated. The classroom unit must be broken down into small learning modules where individuals and small groups become the main focus of instructional efforts. Although the school may continue to serve as a "home base" for the learning process, Douglass suggested that early in the elementary school years students should be provided with extended periods of learning time in institutions that usually are not considered schools:

> These would include places where knowledge is stored, such as art museums, science institutes, and libraries . . . places where knowledge is being put to work, such as farms, hospitals, airports, machine shops, sheet metal works, and construction . . . places in which some kind of education or learning or on-the-job training is underway . . . places where knowledge is being discovered, such as, research institutes and laboratories (Douglass, 1969, pp. 10-11).

The second element would consist of an early start in the education and socialization processes. Low socioeconomic group children often enter school with the accumulated deficits that result from poor nutrition and limited stimulation in infancy and early childhood. These deficits may lead to intellectual inhibition and an inability to take advantage of the educational opportunities that may be open to them in later life. Douglass advocated a program of nursing schools and day care centers where each child will be assured of services of professionals and paraprofessionals who are knowledgeable about early childhood experiences that are beneficial to later development. These centers might be located throughout the community in schools, hospitals, or factories, and they should provide continuing education programs for parents and substitute parents.

An early apprenticeship is the third element of a total program of talent development. Beginning at an early age, students should be given frequent exposure to different ways of making a living and of participating in leisure time activities. Too often, children from low socioeconomic group families have no real contact with a father figure or they see their parents employed only in lower level occupations. They have little opportunity to observe the variety of talents used in the broad spectrum of occupations, and thus, they have a limited conception of the many kinds of talents that are valuable to our society and available for their exploration. Early apprenticeship programs would help youngsters to see the real world's conception of talent rather than the school's traditionally limited concern for only academic ability.

A final element which is necessary in the development of talent potential is the creation of a more open system. The grade by grade progression has failed to meet the needs of students who do not "fit in" at the start or who are not willing to "play the game" by the existing rules. If we truly respect the individual differences and preferences of all people in our society, then we should not force them to follow a relatively prescribed system of learning. Students should be free to alternate school and work experiences with other experiences which they may wish to pursue. They should be free to drop out of school for a given period of time and allowed to reenter the system without fear of punitive action or relegation to programs which are essentially remedial in nature. Access to first rate educational programs should be readily available to every person at every stage of development regardless of his previous success or lack of success in the system. A more open system will allow adults as well as young people to have an opportunity to explore and develop talents that may have been thwarted earlier in life.

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MODEL PROJECT:
IDENTIFICATION OF HIGH POTENTIAL IN CULTURALLY DIVERSE STUDENTS
THROUGH INTEGRATIVE EXPERIENCES IN THEATRE ARTS AND INDEPENDENT STUDY

Director: Mary Hunter Wolf
Co-Director: Robert S. Avery

TECHNIQUES FOR IDENTIFICATION

Section I

Purpose

The Model Project, "Identification of High Potential in Culturally Diverse Students Through Integrative Experiences in Theatre Arts and Independent Study" is one of six projects funded by the United States Office of Education, Office of the Gifted and Talented. Each of the models represents an area of particular concern within the field of Gifted Education. This model is a talent search which addresses the critical problem of identifying culturally diverse students in urban areas with the potential to become gifted adults. The focus of the model is on the middle school level (grades 7-8) which represents a crucial stage in nurturing potential talent. Often, if students with potential, as opposed to demonstrated ability, are not identified and given the opportunity to begin to develop their talents by the early adolescent years, their talents are lost to themselves and to society. Or, the students use their abilities in activities that are counter-productive to themselves and to society.

The Model

In recognition of the multitude of problems facing the urban student who is potentially gifted, the Center for Theater Techniques in Education and the Independent Study Program of the Hamden-New Haven Cooperative Education Center, two agencies with a long history of providing programs for the gifted and talented in New Haven, Connecticut, have combined their efforts to establish a liaison between the middle school and high school levels. The model project consists of a preliminary screening for potential talent and a support program which will nurture the ability of the students by providing opportunities to explore new areas through general creativity and theatre arts experiences, thereby uncovering and reinforcing budding areas of talent. Activities, therefore, are actually a component of the identification process which progresses through the initial phase of screening and the subsequent phase of providing experiences to nurture the students' talent from the stage of potential to demonstrated ability. At the end of the first year, students who are judged to be exceptional will continue in a second year of the program where they will explore their talent areas and focus on the full development of their abilities. Participating students are selected on the basis of potential high ability in creativity, academics, leadership or physical competency. In the second year, the trainers will begin counseling the students to make them aware of the alternative programs for the gifted and talented within the city at the high school level. The Independent Study

Program staff will interview and select students who are interested in participating in the ISP at the tenth grade level. They will also counsel the students throughout the eighth and ninth grade transitional phase.

Section II

Screening Techniques

Screening for potential high ability in a culturally diverse population is quite different from screening with standardized tests to identify students with demonstrated ability. It should be emphasized that the activities which follow in the program section should be considered part of the identification process. The nature of participation in the activities themselves will be considered indicators of giftedness and be a significant factor in the later phases of screening. It is only after the first year of the program has been completed and the students are selected for the second year of the program, that the identification process has been completed.

The procedures which follow have been developed as the Research Design for the Model Project. The chart in Figure 1 presents an overview of the population and the techniques.

In the initial screening of students for entry into the program, there is an interest in using a variety of commonly used identification techniques. In this way, research can be conducted on how students selected for different exceptional qualities respond to the program, and this will provide more information about the appropriateness of using specific identification techniques for the selection of students for this particular type of program. In order to answer this question of appropriateness, it is necessary to keep the selection procedures as separate as possible so that any given student is placed in the selection category for which they have the highest ranking in comparison to all other students. It is recognized that there is considerable overlap in selection techniques so that a student who is high in one category is also likely to be high in one or more other selection of categories. This is taken into consideration in the comparison of the effectiveness of the identification techniques. Nevertheless, by keeping the categories as separate as possible and not using a procedure in which a student would have to rate high on one technique before being considered for another identification technique, it is possible to come to clearer conclusions about the separate techniques.

TABLE I

Ability	Techniques	Number Selected M	F
Creativity	1. Torrance Tests of Creative Thinking - Figural Form A	4	4
	2. Teacher Ratings	2	2
Academics	1. 1975-76 School Grades	4	4
	2. Teacher Ratings	2	2
Leadership	1. Peer Nominations	4	4
	2. Teacher Ratings	2	2
Physical Competence	1. Jury Observations	4	4
	2. Teacher-Student Nominations	2	2
	Totals	24	24
	Total Number Selected	48	

The screening process was developed using two techniques in parallel fashion in each category in order to compare the effectivenss of the technique in selecting gifted students of a culturally diverse background. Equal numbers of boys and girls were selected in each category to eliminate any sex bias which might be operating for the particular area. During a meeting with the principal of the school in which the project is located, it was decided, at the principal's suggestion, that alternates for the program not be designated. The total number of participants was increased slightly to offset any students who may elect not to participate in the program.

The participants were selected from a total population of 176 seventh grade students from the Jackie Robinson Middle School in New Haven, Connecticut.

All seventh grade students were given the Torrance Test of Creative Thinking, Figural Form A and The Locus of Control.

Screening Procedures

Creativity

In the area of creativity, the Torrance Tests of Creative Thinking, Figural Form A was administered to the students by the project staff. The results of the test were tallied and the students' scores were rank-ordered by sex from high to low. Teachers were asked to nominate the three most creative students in their unit of approximately 100 students. (The seventh grade population is divided into two units.) The ratings of the teachers were analyzed by the rank they assigned the student and the frequency with which a student was mentioned.

From the Torrance Tests of Creative Thinking, the top four boys and the top four girls were selected for the program. From the teacher nominations, the top boy and girl from each unit was selected.

Academics

In the area of academics, a grade point average was computed on all high achieving students using the grades from the past school year. The students' grade point averages were rank-ordered by sex from the highest to the lowest. Teachers were asked to nominate the three top students in their unit. The teacher nominations were again analyzed by rank and frequency.

From the grade point averages, the top four boys and the top four girls were selected for the program. From the teacher nominations, the top boy and girl from each unit were selected.

Leadership

In the area of leadership, a peer nomination form was developed which focused on four clusters of leadership abilities. The form was administered to all seventh grade students and the results tallied according to frequency. Teachers were also asked to nominate the three students who were highest in leadership. The results were analyzed by rank and frequency.

From the peer nominations the top four boys and the top four girls were selected. From the teacher nominations, the top boy and girl from each unit was selected.

Physical Competence

In the area of physical competence, teachers and students were both asked to nominate the best athletes. All nominees were observed by a Jury consisting of a Physical Education person, a Project person, and a dance movement person. Each student performed a dance movement exercise developed by the American Shakespeare Theater and two exercises from the American Association for Health, Physical Education and Recreation's Youth Fitness Test Manual and judged on Agility, Coordination and Explosiveness. From the Overall Performance Ratings, students were rank-ordered according to sex from highest to lowest. A rank ordering of students nominated by teachers and peers was compiled according to frequency.

From Jury observations, the top four boys and the top four girls were selected. From the combined student and teacher nominations, the top two boys and the top two girls were selected.

Screening Instruments

1. Teacher Nominations - Creativity, Learning, Leadership and Motivation -- Renzulli Rating Scales;

2. Leadership -- Peer Nomination Form - Characteristics of Leadership;

3. Physical Competence - Broad Jump, Shuttle Run, Movement Exercise, Jury Explanation, and Jury Form.